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IRRIGATION DEPARTMENT, PUNJAB.

ADMINISTRATION REPORT

FOR

1916-17.

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ADMINISTRATION REPORT FOR THE YEAR 1916-17.

Part I

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Upper Chenab Canal	...	"	"	18-19	"
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PUNJAB CANALS.

YEAR.				AREA IRRIGATED, IN ACRES.		
				Punjab Canals, Major Works.	Punjab Canals, Minor Works.	Total.
1887-1888	...	...	...	1,422,776	918,328	2,341,103
1888-1889	...	...	...	1,749,957	997,428	2,747,385
1889-1890	...	...	...	1,863,456	994,710	2,858,166
1890-1891	...	...	...	2,033,500	982,956	3,016,456
1891-1892	...	...	...	2,144,392	1,049,154	3,193,546
1892-1893	...	...	...	1,847,882	1,079,709	2,927,591
1893-1894	...	...	...	1,903,654	958,664	2,862,318
1894-1895	...	...	...	1,855,858	1,063,296	2,919,154
1895-1896	...	...	...	2,852,383	939,200	3,791,583
1896-1897	...	...	...	3,649,303	980,110	4,629,413
1897-1898	...	...	...	4,053,289	1,158,360	5,211,649
1898-1899	...	...	...	3,872,501	981,264	4,853,765
1899-1900	...	...	...	4,384,972	859,522	5,244,494
1900-1901	...	...	...	4,642,852	1,357,699	6,000,551
1901-1902	...	...	...	4,491,888	981,521	5,473,369
1902-1903	...	...	...	4,864,274	815,690	5,679,964
1903-1904	...	...	...	5,610,737	779,527	6,390,334
1904-1905	...	...	...	5,689,132	617,252	6,306,384
1905-1906	...	...	...	6,163,369	751,067	6,914,436
1906-1907	...	...	...	5,902,995	808,317	6,706,312
1907-1908	...	...	...	5,515,886	524,558	6,039,944
1908-1909	...	...	...	6,385,050	968,096	7,353,146
1909-1910	...	...	...	6,117,004	969,607	7,086,611
1910-1911	...	...	...	6,270,757	956,285	7,227,042
1911-1912	...	...	...	7,469,645	862,247	8,331,892
1912-1913	...	...	...	7,461,251	968,130	8,429,381
1913-1914	...	...	...	7,351,721	971,743	8,323,464
1914-1915	...	...	...	7,883,028	1,079,413	8,962,441
1915-1916	...	...	...	7,982,532	902,279	8,884,811
1916-1917	...	...	...	8,493,867	1,085,957	9,579,824

From 1894-1895 to 1905-1906 the total areas shown are *net*, thereafter the areas are gross.

The areas include the Swat River Canal up to 1900-1901 ; after which date the canal was transferred to the North-West Frontier Province.

DIAGRAM
SHOWING TOTAL AREA IRRIGATED
BY
PUNJAB CANALS—MAJOR AND MINOR WORKS.

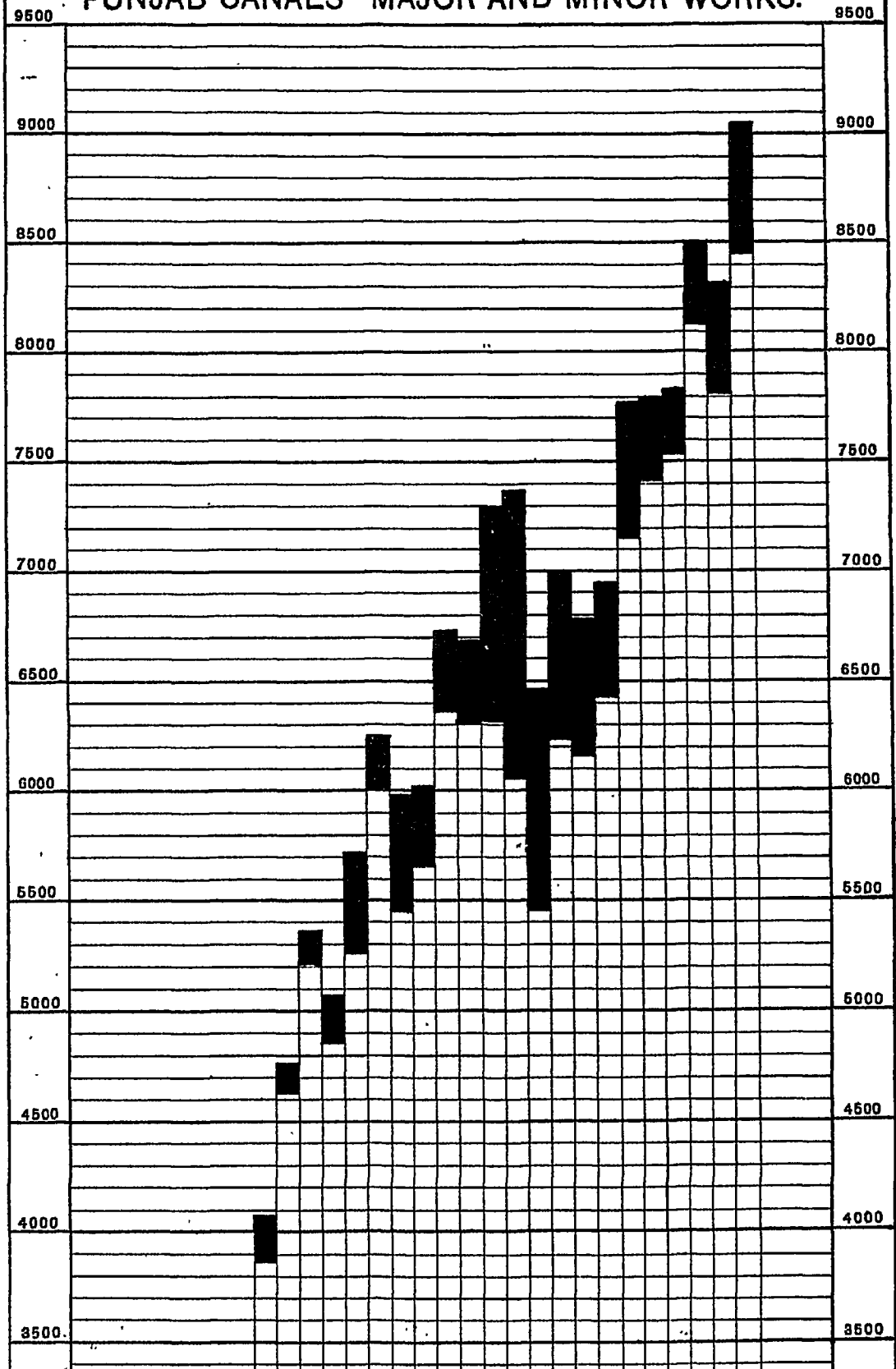
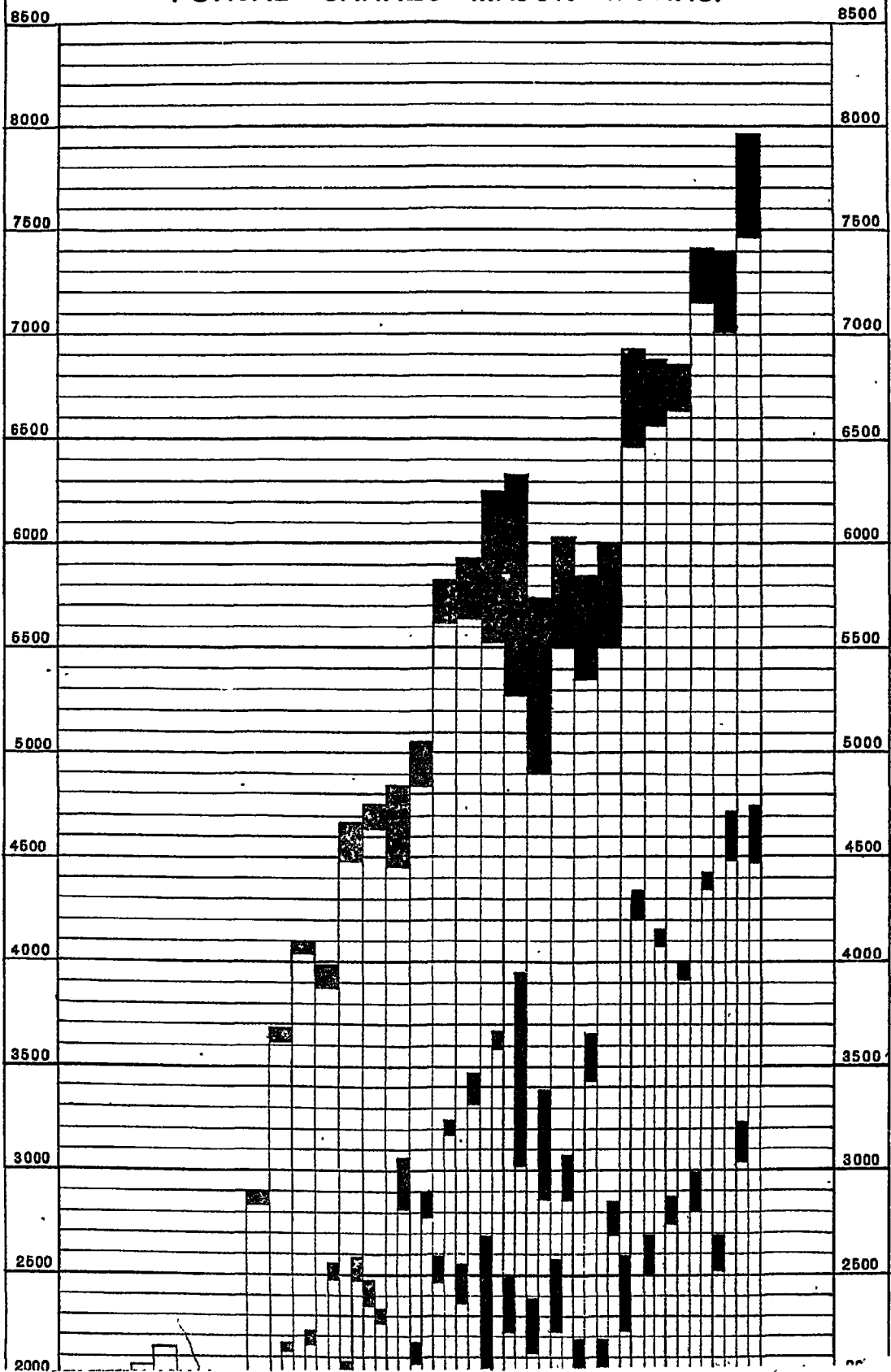


DIAGRAM
SHOWING TOTAL AREA IRRIGATED
BY
PUNJAB CANALS—MAJOR WORKS.



PUNJAB CANALS, MAJOR WORKS.

YEAR.	AREA IRRIGATED, IN ACRES.			REMARKS.
	Kharif.	Rabi.	Total.	
1887-1888 ...	645,816	776,929	1,422,775	Lower Chenab Canal opened.
1888-1889 ...	715,682	1,084,325	1,749,957	
1889-1890 ...	661,677	1,201,779	1,863,456	
1890-1891 ...	757,535	1,275,965	2,033,500	
1891-1892 ...	697,454	1,416,088	2,114,392	Sirsa Branch of Western Jumna Canal opened.
1892-1893 ...	323,235	1,024,647	1,347,882	Decrease due entirely to the favourable winter rains of 1892-93 which greatly contracted the irrigated rabi area.
1893-1894 ...	711,001	1,192,653	1,903,654	Decrease as compared with 1891-92, due to general rainfall in rabi 1893-94, and would have been greater but for new irrigation on Chenab Canal.
1894-1895 ...	703,930	1,151,925	1,855,858	Decrease due to very favourable rainfall during rabi, particularly in Sirhind and Western Jumna Canal tracts.
1895-1896 ...	935,827	1,806,556	2,852,383	Increase chiefly due to partial failure of rains of 1895 and subsequent drought.
1896-1897 ...	1,531,969	2,114,334	3,646,303	Increase due to drought.
1897-1898 ...	1,777,565	2,275,721	4,053,286	Increase due to favourable year for irrigation and extensions.
1898-1899 ...	1,413,822	2,455,679	3,872,501	Decrease in kharif due to favourable state of rivers and scanty rainfall.
1899-1900 ...	1,888,308	2,496,574	4,384,882	
1900-1901 ...	2,354,174	2,238,678	4,592,852	
1901-1902 ...	1,686,043	2,805,795	4,491,838	Lower Jhelum Canal opened.
1902-1903 ...	2,071,363	2,792,911	4,864,274	The Upper Sutlej Inundation Canals were transferred from head "Minor Works" to "Major Works" from 1st April 1902.
1903-1904 ...	2,450,789	3,160,019	5,610,807	The Indus Inundation Canals were transferred from head "Minor Works" to "Major Works" from 1st April 1903.
1904-1905 ...	2,351,786	3,307,316	5,659,102	
1905-1906 ...	2,291,460	3,868,911	6,160,371	Decrease in kharif due to cotton failure.
1906-1907 ...	2,435,219	3,467,776	5,902,995	
1907-1908 ...	2,226,291	3,259,035	5,485,326	Decrease due to abnormally low supplies in the rivers.
1908-1909 ...	2,695,518	3,680,532	6,376,050	
1909-1910 ...	2,285,870	3,831,184	6,117,054	
1910-1911 ...	2,251,833	4,016,421	6,270,757	
1911-1912 ...	2,755,324	4,714,321	7,469,645	
1912-1913 ...	2,929,309	4,531,942	7,461,251	Upper Chenab Canal opened
1913-1914 ...	3,069,950	4,281,771	7,351,721	Lower Bari Doab Canal opened.
1914-1915 ...	3,184,751	4,698,877	7,883,628	
1915-1916 ...	2,886,678	5,095,954	7,982,632	Upper Jhelum Canal opened. Decrease in kharif due to drought and abnormally low supplies in the rivers.
1916-1917 ...	3,441,467	5,052,400	8,493,867	

The areas include the Swat River Canal up to 1900-1901, after which date the canal was transferred to the North-West Frontier Province.

From 1894-05 to 1905-1906 the total areas shown are net; thereafter the areas are gross.

PUNJAB CANALS, MINOR WORKS.

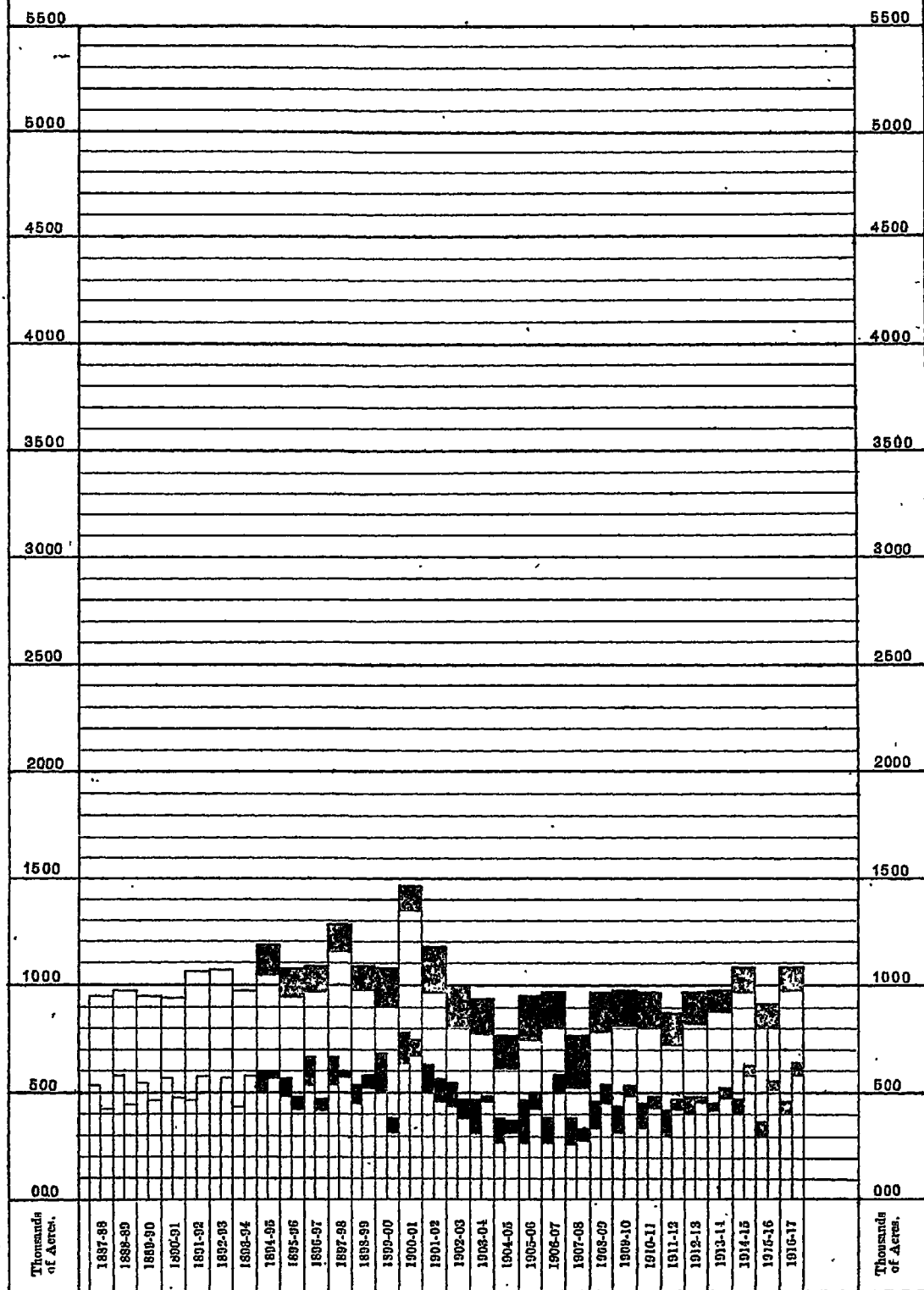
YEAR.	AREA IRRIGATED, IN ACRES.			REMARKS.
	Kharif.	Rabi.	Total.	
1887-1888 ...	505,095	413,233	918,328	
1888-1889 ...	571,558	425,870	997,428	
1889-1890 ...	542,112	452,598	994,710	
1890-1891 ...	520,408	462,548	982,956	
1891-1892 ...	452,490	596,664	1,049,154	
1892-1893 ...	491,151	588,558	1,079,709	Rivers rose h'tc, but subsequent supplies were good, and rainfall was favourable, the result being the largest area on record up to date.
1893-1894 ...	469,917	548,747	958,664	Decrease due to the destruction of kharif crops by high floods and to less favourable working of the canals.
1894-1895 ...	500,218	562,048	1,062,266	
1895-1896 ...	477,957	461,243	939,200	
1896-1897 ...	533,745	426,365	960,110	
1897-1898 ...	565,562	592,778	1,158,360	
1898-1899 ...	453,402	530,862	984,264	
1899-1900 ...	520,893	338,629	859,522	
1900-1901 ...	669,563	688,136	1,357,699	
1901-1902 ...	508,416	573,105	981,521	
1902-1903 ...	424,819	390,871	815,690	Decrease due chiefly to the transfer of the Upper Sutlej Inundation Canals from head "Minor Works" to "Major Works" from 1st April 1902.
1903-1904 ...	316,418	463,129	779,547	Decrease due chiefly to the transfer of the Indus Inundation Canals from head "Minor Works" to "Major Works" from 1st April 1903.
1904-1905 ...	296,636	320,616	617,252	
1905-1906 ...	298,279	432,789	751,067	
1906-1907 ...	295,898	507,419	803,317	
1907-1908 ...	259,074	266,484	524,558	
1908-1909 ...	442,058	526,008	968,066	
1909-1910 ...	426,020	513,587	939,607	
1910-1911 ...	159,270	497,015	656,285	
1911-1912 ...	402,641	459,606	862,247	
1912-1913 ...	467,957	509,178	968,135	
1913-1914 ...	461,572	506,871	971,713	
1914-1915 ...	466,107	613,306	1,079,413	
1915-1916 ...	362,607	539,672	902,279	Decrease due to drought and abnormally low supplies in the rivers.
1916-1917 ...	452,348	633,609	1,085,957	

The above includes the areas irrigated by the Sindh Provincial Canals from 1890-1891 inclusive

The above includes the areas irrigated on Ghaggar Canals, British and Bikaner State.

From the year 1891-1895 to 1905-1906 the areas shown are *net*; thereafter the areas are *gross*.

DIAGRAM SHOWING TOTAL AREA IRRIGATED BY PUNJAB CANALS—MINOR WORKS.



REFERENCES.

The first sub-division of each annual column denotes the "Kharif" area, coloured red, and the second the "Rabi" area, coloured blue.

The black portions represent area remitted; the drab, net areas, from the year 1894-95.

PUNJAB CANALS, MAJOR WORKS.

YEAR.	Capital outlay, <i>Direct</i> and <i>Indirect</i> , to end of year.	Interest charges to end of year.	Net revenue to end of year.	Accummu- lated profits to end of year (column 4— column 3).	FOR THE YEAR.			
					Gross revenue.	Working expenses.	Net revenue.	Percentage on capital.
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-1888	5,76,25,828	8,18,46,764	6,09,35,681	1,80,89,867	49,05,923	17,01,248	28,04,675	3.99
1888-1889	5,80,43,400	8,40,74,458	5,83,37,688	1,02,53,180	43,64,994	19,72,387	23,92,607	4.06
1889-1890	6,00,98,478	8,08,40,808	5,61,80,320	1,98,80,512	49,66,797	21,14,115	28,52,682	4.74
1890-1891	6,21,71,561	8,86,93,787	5,98,37,074	2,11,43,307	68,30,440	21,78,686	46,51,754	5.85
1891-1892	6,70,91,026	4,11,74,523	6,83,28,128	2,24,51,808	60,10,990	22,51,038	37,59,952	5.65
1892-1893	6,87,92,824	4,37,83,907	6,79,83,241	2,42,54,647	68,09,140	24,51,031	43,57,518	6.24
1893-1894	7,34,89,876	4,65,46,772	7,08,89,491	4,13,40,519	53,53,977	24,45,060	29,08,917	8.05
1894-1895	7,64,95,573	4,94,29,432	7,42,04,495	2,47,75,051	59,45,551	26,50,549	32,95,002	4.83
1895-1896	8,02,57,097	5,24,41,585	7,87,76,591	2,03,35,026	70,08,254	28,40,474	42,67,780	5.31
1896-1897	8,41,00,556	5,59,01,216	8,00,31,088	3,10,32,517	1,09,41,418	30,87,005	78,54,413	9.34
1897-1898	8,70,19,566	5,89,92,103	9,56,36,223	3,67,44,063	1,21,89,419	31,86,227	90,02,192	10.85
1898-1899	9,92,16,631	6,22,82,641	10,44,91,814	4,22,09,178	1,24,07,093	35,51,505	68,55,588	9.93
1899-1900	9,02,47,216	6,57,49,487	11,37,77,761	4,80,28,274	1,84,14,661	41,28,714	92,85,944	10.21
1900-1901	9,23,75,977	6,92,70,850	12,40,93,246	5,49,21,857	1,40,16,130	43,01,651	1,09,14,485	11.20
1901-1902*	8,04,41,638	6,93,30,552	13,15,08,916	6,16,78,381	1,49,35,193	43,26,919	1,03,08,279	11.52
1902-1903	10,31,61,099	7,53,36,849	14,46,26,777	6,01,59,928	1,66,14,691	48,22,673	1,17,91,921	11.39
1903-1904	10,69,07,047	8,03,38,374	15,82,78,820	7,79,42,625	1,85,78,691	57,18,071	1,28,60,620	12.02
1904-1905	10,87,93,316	8,44,56,907	17,16,51,245	8,71,04,383	1,96,10,593	62,38,247	1,33,72,346	12.29
1905-1906	11,01,51,710	8,56,86,692	18,37,47,798	9,51,11,106	1,93,36,598	65,90,268	1,27,46,330	10.66
1906-1907	11,11,16,550	8,23,04,047	19,79,51,811	10,56,47,764	2,21,75,797	69,78,897	1,51,97,700	13.68
1907-1908	11,23,53,171	8,69,91,570	21,10,52,103	11,50,70,283	2,02,79,699	71,79,407	1,31,00,292	11.64
1908-1909	11,28,02,325	9,96,57,325	22,48,90,401	12,62,23,076	2,11,00,012	72,71,714	1,38,28,298	12.26
1909-1910	11,33,18,773	10,83,10,741	23,93,61,134	13,60,41,393	2,23,90,978	79,19,246	1,44,80,733	12.78
1910-1911	11,43,81,721	10,70,28,093	25,49,76,785	14,70,47,602	2,34,16,482	78,02,291	1,56,14,651	13.66
1911-1912	11,62,22,814	11,09,11,160	27,37,29,768	16,29,18,690	2,71,10,441	83,56,458	1,87,53,983	16.18
1912-1913	14,62,99,761	11,86,74,357	29,78,41,189	17,01,66,912	3,27,93,830	86,51,029	2,41,11,401	16.48
1913-1914	10,77,57,610	12,53,50,785	32,37,09,670	19,84,18,886	3,47,39,517	68,11,016	2,69,28,501	15.45
1914-1915	17,17,13,716	13,11,09,094	34,00,07,666	21,79,01,532	3,46,62,415	93,21,419	2,52,37,996	14.70
1915-1916	21,09,51,484	14,40,01,331	37,26,05,954	22,86,04,073	3,45,59,804	1,09,81,516	2,36,58,288	10.90
1916-1917	22,06,16,198	15,10,65,128	40,13,37,895	25,02,62,207	3,96,31,912	1,69,70,471	2,86,61,411	12.99

* Excludes the figures relating to the Swat River Canal, which now belongs to the North-West Frontier Province. The figures up to 1900-1901 include the figures of that canal.
The gross revenue in column 6 is that actually collected during the year and differs from the revenue as assessed on the area irrigated in the year.

PUNJAB CANALS, MAJOR WORKS.

Year.	Capital outlay, Direct and Indirect, to end of year.	Interest charges to end of year.	Net revenue to end of year.	Accumulated profits to end of year (column 4—column 3).	FOR THE YEAR.			
					Gross revenue.	Working expenses.	Net revenue.	Percentage on capital.
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1887-1888	5,76,25,823	3,18,40,764	5,09,35,681	1,80,39,667	40,06,023	17,01,248	23,04,675	3.99
1888-1889	5,80,43,409	3,40,74,483	5,33,37,638	1,92,53,180	43,64,094	19,72,987	23,92,007	4.08
1889-1890	6,00,98,478	3,68,49,808	5,61,80,320	1,98,80,512	49,06,707	21,14,115	28,52,832	4.74
1890-1891	6,24,71,561	3,86,93,767	5,98,37,074	2,11,43,307	58,80,440	21,73,696	36,56,754	5.85
1891-1892	6,70,91,026	4,11,74,523	6,86,20,126	2,24,51,008	60,40,990	22,51,938	37,89,052	5.65
1892-1893	6,97,92,824	4,37,98,997	6,79,83,641	2,42,84,647	68,09,140	24,51,931	43,57,518	6.24
1893-1894	7,34,89,876	4,65,48,772	7,08,89,491	4,43,40,719	53,50,977	24,45,060	29,05,847	8.95
1894-1895	7,64,95,573	4,94,29,432	7,43,04,493	2,47,75,081	59,65,551	26,50,549	33,15,002	4.83
1895-1896	8,02,57,097	5,24,41,565	7,87,70,591	2,63,35,029	70,08,251	28,40,474	42,57,780	5.31
1896-1897	8,41,00,266	5,56,01,216	8,66,34,088	3,10,32,817	1,09,44,443	80,87,005	78,57,443	9.34
1897-1898	8,70,19,865	5,88,92,169	9,56,30,226	3,07,44,053	1,21,38,410	31,86,227	90,02,192	10.85
1898-1899	8,92,16,531	6,22,82,641	10,44,91,814	4,22,09,173	1,24,07,093	35,51,506	89,55,568	9.93
1899-1900	9,09,47,216	6,57,49,487	11,37,77,781	4,80,28,274	1,84,14,661	41,28,714	92,85,914	10.21
1900-1901	9,23,75,977	6,82,70,850	12,40,93,246	5,48,21,887	1,46,16,139	43,01,651	1,09,14,485	11.20
1901-1902*	8,04,41,038	6,93,30,552	13,15,08,916	6,16,78,364	1,46,35,198	43,26,919	1,08,09,278	11.52
1902-1903	10,31,61,088	7,53,36,849	14,45,26,777	6,91,89,928	1,06,14,594	48,22,673	1,17,91,921	11.39
1903-1904	10,69,07,947	8,08,36,874	15,82,78,899	7,79,42,525	1,85,78,691	57,18,671	1,28,55,020	12.02
1904-1905	10,57,88,316	8,44,56,997	17,16,51,245	8,71,94,883	1,95,10,598	62,38,247	1,33,72,346	12.29
1905-1906	11,01,51,719	8,86,86,602	19,37,47,798	9,61,11,109	1,83,36,568	65,90,366	1,17,46,802	10.66
1906-1907	11,11,16,550	9,23,04,047	19,79,51,811	10,56,47,764	2,21,75,707	69,78,607	1,51,97,700	13.68
1907-1908	11,28,83,171	9,59,81,870	21,10,52,103	11,50,70,283	2,02,79,699	71,79,407	1,31,00,292	11.64
1908-1909	11,28,02,325	9,90,57,325	22,48,80,401	12,52,23,076	2,11,00,012	72,71,714	1,38,28,298	12.26
1909-1910	11,38,18,773	10,38,19,741	23,93,61,131	13,60,41,393	2,23,99,578	79,19,245	1,44,80,738	12.78
1910-1911	11,43,31,721	10,70,28,093	25,49,75,785	14,70,47,592	2,31,16,492	78,02,291	1,58,14,651	13.66
1911-1912	11,62,22,814	11,09,11,169	27,37,29,768	16,29,18,599	2,71,10,441	83,56,458	1,87,53,983	16.18
1912-1913	14,62,99,781	11,86,74,367	29,78,41,169	17,91,66,812	3,27,93,830	80,81,929	2,41,11,401	16.48
1913-1914	16,77,87,610	12,53,50,785	32,37,69,670	19,84,18,885	3,47,39,517	88,11,016	2,59,28,501	15.45
1914-1915	17,17,13,716	13,11,06,094	34,00,07,606	21,79,01,532	3,45,62,415	93,24,449	2,52,87,996	14.70
1915-1916	21,69,51,484	14,40,01,331	37,26,05,954	22,89,04,073	3,45,59,804	1,69,31,516	2,36,58,298	10.90
1916-1917	22,06,16,193	15,10,65,128	40,13,27,395	25,02,62,267	3,96,31,912	1,69,70,471	2,86,61,441	12.99

* Excludes the figures relating to the Great River Canal, which now belongs to the North-West Frontier Province. The figures up to 1909-1901 include the figures of that canal.

The gross revenue in column 6 is that actually collected during the year and differs from the revenue as assessed on the area irrigated in the year.

GOVERNMENT OF THE PUNJAB.
PUBLIC WORKS DEPARTMENT.

Irrigation Branch.

No. 1264-R. I.

The 20th December 1917.

Resolution by His Honour the Lieutenant-Governor of the Punjab and its Dependencies.

READ —

Administration Report by the Chief Engineer, Irrigation Works, Punjab, of the Canals in the Punjab for the year 1916-17.

Capital Outlay.

DURING the year under report the expenditure (direct and indirect) on canals in operation classed as Productive or Major Irrigation Works, was Rs. 36,80,696 (Imperial Rs. 36,64,709 and Contribution Rs. 15,387), bringing the total outlay to date to Rs. 23,60,93,960, including Rs. 1,54,77,767 contributed by Native States.

Of the Imperial expenditure during the year the sum of Rs. 31,21,690 was expended on the construction and completion of the Triple Canal system. On the other canals the expenditure was, for reasons of financial stringency, kept very low with the exception of the Lower Chenab Canal, the total expenditure on which was Rs. 5,58,238. This was spent chiefly on the much-needed work of raising the Khanki Weir, to improve control of the river Chenab, and on the Paikhu Spur for the same purpose.

The Upper Bari Doab Canal and the Lower Jhelum Canal showed a credit balance, due to suspense transactions (stock issues to works) and receipts on Capital account, which exceeded the actual expenditure on these canals by Rs. 1,55,923 and Rs. 32,594, respectively.

On canals not classed as Productive, or Minor Works for which Capital and Revenue accounts are kept, there was no expenditure during the year. The up-to-date expenditure on these canals was, therefore, the same as in the previous year, *vis.*, Rs. 8,77,485, including Rs. 2,85,442 contributed by the Bikaner State.

Nature of Seasons.

3. *Kharif* 1916.—The monsoon of 1915 was exceptionally short, and the winter rains of 1915-16 failed almost completely, the drought continuing till June 1916. The result was very low rivers, short supplies in all the canals, and late opening of the Inundation Canals. Early in June the rains broke, and in July and August the rainfall was widespread and plentiful. There was a short break in September, and the monsoon of 1916 ended early in October. A marked feature of the season was that the rainfall was good—in parts excessive—in the Punjab plains, but very moderate in the Himalayas. There was some local damage to crops, due to excessive rainfall. The rivers were remarkably free from high floods, and the higher lands on the Inundation Canals suffered from lack of inundation. The shortage of supplies at sowing time caused a serious contraction in the area under cotton, while the scarcity of fodder led to a great increase in fodder crops. The outturn of food crops except rice was poor owing to excessive late rains in October, but sugar-cane and cotton, on the whole, did well.

Rabi 1916-17.—The excellent monsoon rainfall of 1916, and the heavy rains in the beginning of October, were most favourable for the sowing of the *Rabi*. Unfortunately, however, the winter rains again failed, the season became abnormally dry, and the rivers fell so low that the Jhelum, the Chenab and the Ravi rivers had the lowest supplies on record. The low rivers were probably a direct consequence of the light monsoon in the mid-Himalayas and the subsequent poor snowfall.

The demand for water was very keen, and though it could not be fully met, the small supplies available were distributed to the best effect and the canals again saved the province from very severe scarcity. The general effect on the wheat crop of deficient rain and restricted canal supplies was that, though the outturn of grain was nearly normal, the outturn of 'bhusa' was short.

The grain was of excellent quality, but was much damaged by the untimely rain and hail which fell in April and May, when the grain was ripening or being harvested, necessitating the grant of special remissions under Rule 20 (III) of the Rules under the Canal Act, VIII of 1873.

Area irrigated, etc.

4. The areas irrigated and matured by works of all kinds compare as follows with the corresponding figures for the two previous triennia and for the year 1915-16 :—

Particulars.	AVERAGE OF THE 3 YEARS ENDING		During 1915-16.	During 1916-17.
	1912-13.	1915-16.		
	Acres.	Acres.	Acres.	Acres.
<i>Imperial and Provincial.</i>				
Area irrigated	7,510,770	8,146,997	8,237,886	8,954,131
Area matured	6,982,371	7,779,810	7,805,703	8,351,660
<i>Native States.</i>				
Area irrigated	518,950	576,775	646,925	625,693
Area matured	513,958	572,716	619,234	621,761

Under Imperial and Provincial the area irrigated and area matured exceeded by 716,245 acres and 548,957 acres, respectively, the figures of 1915-16; and by 807,134 acres and 574,820 acres, the average figures of the previous triennium. The increase was due mainly to the expansion of irrigation on the Triple Canal system, and to the very good monsoon rainfall which helped also in increasing the area under irrigation on other canals. Of the Triple Canals the Upper Chenab increased its irrigation from 325,000 acres to 437,000 acres, the Lower Bari Doab Canal from 288,000 to 515,000 acres. These figures indicate very satisfactory progress, but the Upper Jhelum which ran for the first time irrigated only 118,000 acres.

Excluding the Triple Canal system, the total increase on all other canals was 254,683 acres and 271,602 acres, respectively, over the figures of the areas irrigated and matured in the previous year: a very satisfactory result in a year during the greater part of which the supplies were unusually short. The success that attended the operations of the Inundation Canals except the Indus system is a matter of special congratulation.

The reason for the shortage on the Triple Canal system, as a whole, viz., 1,070,018 acres against a forecast of 1,513,367 acres, was that the Upper

Jhelum Canal, on which the working of the Upper Chenab Canal and the Lower Bari Doab Canal is dependent, was opened a year late, and was not able, owing to the newness of its banks, to carry the supply required. The supply in this new canal (Upper Jhelum Canal) is being raised steadily and cautiously, and it is hoped that the forecast will be realized within a few years. The Lower Jhelum and Lower Chenab reports show separately areas irrigated in old and new villages, and the Lieutenant-Governor considers that similar information should be given for all the canals irrigating newly colonised areas.

5. The area on which irrigation charges were remitted was 608,413 acres against 435,824 acres in the previous year. But from these figures must be deducted 175,718 acres and 40,987 acres, respectively, granted remissions under Tenancy rules mostly on the Lower Bari Doab Canal, not for failure of crops, but as part of the terms of colonization. Thus the area of crops that failed amounted to only 428,910 acres, as compared with 395,526 acres in the previous year. *The proportion of the area that failed to the area irrigated was about the same in both years, viz., 4.5 per cent.* About fifty per cent. of the failure was due to flooding by rain, short supplies in the rivers and hail. Other kinds of remissions were normal.

Considering the unusually low supplies in the river and the failure of the winter rains the results have been much better than might have been anticipated.

Financial results.

6. The financial results of the year under review are based on the revenue assessed and collected on the areas irrigated in Rabi 1915-16 and Kharif 1916. The gross receipts from works of all kinds compare as follows with the figures for the year 1915-16 and the two previous triennial periods ending 1912-13 and 1915-16:—

Particulars.	AVERAGE OF THE THREE YEARS ENDING		During 1915-16.	During 1916-17.
	1912-13.	1915-16.		
	Rs.	Rs.	Rs.	Rs.
<i>Imperial and Provincial.</i>				
Major Works	2,77,73,571	3,46,30,569	3,45,89,804	3,90,31,912
Minor Works	17,11,218	19,10,180	18,86,557	20,09,978
Total	2,95,14,789	3,05,40,769	3,04,76,361	4,10,41,890
<i>Native States.</i>				
Major Works	20,85,791	24,47,259	31,88,303	27,96,094
Minor Works	23	2	1	...
Total	20,85,814	24,47,261	31,88,304	27,96,094

The gross receipts under Imperial and Provincial are the highest on record, being about 50 lakhs better than the highest previous record. Both the Major and Minor Works contribute to these excellent results. The amount

collected on the Triple Canal system was Rs. 36,12,074, including Rs. 4,57,796 on account of indirect receipts representing chiefly the interest at 4 per cent. on the sale-proceeds of the Government waste lands on the Upper Chenab and Lower Bari Doab Canals and including only a small amount for land revenue and malikana. The question of indirect credit on these new canals is under consideration. With reference to the remarks in paragraph 7 of the report on the Ghaggar Canals, which are still shown as worked at a loss, the Lieutenant-Governor would be glad if the Chief Engineer should examine the system of credits with the Financial Commissioner.

The working expenses for the year are compared below with the similar figures of the annual averages of the two previous trienna and of the year 1915-16 :—

Particulars.	AVERAGE OF THE TRIENNIUM ENDING		During 1915-16	During 1916-17.
	1912-13.	1915-16.		
IMPERIAL AND PROVINCIAL.				
	Rs.	Rs.	Rs.	Rs.
Major Works ...	82,60,226	90,88,991	1,09,31,516	1,09,70,471
Minor Works ...	10,08,281	9,58,683	9,47,959	8,74,535
Total	92,68,510	1,00,47,677	1,18,79,475	1,18,45,056
NATIVE STATES.				
	Rs.	Rs.	Rs.	Rs.
Major Works ...	8,16,828	8,93,867	9,24,201	10,46,700
Minor Works ...	3,996	7,564	4,764	8,130
Total	8,20,814	9,01,231	9,28,965	10,54,830

Excluding the three recently constructed canals of the Triple Project, which needed a larger amount for up-keep, the expenditure on Major Works was about normal ; and was incurred chiefly on repairing the damage caused to canal banks by the heavy monsoon, and on the ordinary maintenance and silt clearance.

The expenditure on Minor Works is met out of the ordinary revenue and was restricted to a minimum in accordance with the orders in force regarding retrenchment.

The net revenue for the year compares as follows with that of the previous periods :—

Particulars.	AVERAGE OF THE TRIENNIUM ENDING		During 1915-16.	During 1917-18.
	1912-13.	1915-16.		
IMPERIAL AND PROVINCIAL.				
	Rs.	Rs.	Rs.	Rs.
Major Works ...	1,91,93,345	2,49,41,595	2,36,59,288	2,66,61,441
Percentage on Capital ...	13 32	11 50	10 90	12 90
Minor Works ...	7,81,931	9,51,497	9,38,598	11,85,393
Total ...	2,02,28,270	2,58,93,092	2,45,96,886	2,97,96,834
NATIVE STATES.				
Major Works ...	12,18,982	15,53,192	15,64,103	17,49,391
Percentage on Capital ...	7 97	10 05	10 12	11 30
Minor Works ...	—3,963	—7,562	—4,763	—8,130
Total ...	12,14,999	15,48,030	15,59,339	17,41,264

On the Major Irrigation Works the net revenue earned showed an increase of about Rs. 50 lakhs over the figures of the previous year. Of this Rs. 17.57 lakhs were contributed by the new canals of the Triple Project, which showed a deficit in the previous year. The increase on the other canals was attributable to the favourable monsoon rainfall in the *khari* crop of the year under report. The *rabi* crop of the year 1915-16, the demand for which was collected during the year, also yielded good financial results as the abnormal drought created an unusually keen demand for the moderate supplies available.

The interest charges for the year amounted to Rs. 70,03,847 and the net profit, after defraying interest charges, was Rs. 2,16,57,591 or 9.82 per cent. on the Capital outlay to date. In the previous year the corresponding figures were Rs. 1,64,21,265 and 7.56 respectively.

The Minor Works have also done well and show an increase of nearly 2 lakhs over the figures of the previous year.

The percentage of net revenue on Capital outlay on the principal canals was as follows:—

Canal.	Excluding interest charges.	Including interest charges.
Western Jumna	10 15	7 00
Sirhind (Imperial)	11 63	8 49
Upper Bari Doab	17 35	14 17
Lower Bari Doab	1 55	—1 62
Upper Chenab	4 88	1 71
Lower Chenab	43 6	40 42
Upper Jhelum	—1 27	—4 45
Lower Jhelum	23 56	20 35
Upper Sutlej Inundation Canals	9 19	6 08
Sidhnai	32 25	29 06
Indus Inundation Canals	4 35	1 14

With the exception of the Upper Jhelum Canal, Upper Sutlej Inundation Canals and Sidhnai Canals, all the other Major Irrigation Works as detailed above showed improvement over the figures of the previous year.

The collections on the Upper Jhelum Canal were for *khari* only, there was no *rabi* crop in 1915-16. The tabular statement above is unfair to the Upper Jhelum Canal, as most of its Capital Expenditure is for the benefit of the Upper Chenab Canal and Lower Bari Doab Canal, and not for local irrigation. For proper comparison with the older canals the three canals should be taken together. For the Triple Canal system as a whole, the net revenue percentages are 1.49 excluding interest charges, and — 1.58 including interest charges. As regards the financial results it has to be borne in mind that no less than one-third of the total income, or 130 lakhs, is made up of indirect receipts on account of land revenue due to the canal, water advantage or owner's rate, proceeds of sales of Government lands in the Colonies. These receipts explain the extraordinarily high profits on the Lower Chenab, Lower Jhelum and Sidhnai Canals on which most of the land irrigated belonged to Government. They also swell the profits for the Punjab Canals, as a whole, which, if indirect receipts were excluded, would amount to only 4 per cent. on the Capital outlay.

General Remarks.

7. This was the first complete year of irrigation from the Upper Jhelum Canal which was opened for irrigation in December 1915. Thus all three canals of the Triple Project were in operation during the year. As the river supplies were unusually low, the question of an equitable distribution of the supply of the three Rivers—Chenab, Jhelum and Ravi—amongst the five canals dependent thereon (Upper and Lower Jhelum, Upper and Lower Chenab and the Lower Bari Doab) had to be considered. A programme of rotational canal turns was arranged by the Chief Engineer, after consultation with the Superintending Engineers of these canals; and the distribution effected thereby proved, on the whole, fair. Experience has indicated the need for certain modifications which are being tried. Certain difficulties in adjusting the conflicting claims of the five canals are inevitable in seasons of short supply, and the Lieutenant-Governor will be glad if in future reports some reference is made to any difficulties which may arise, and the manner in which they have been solved. Our important consideration is to give as timely notice as possible to the officers controlling each system and through them to the irrigators of any reductions in the supply or of contemplated rotational working.

8. Another feature of the year was that the construction estimate of the Triple Project was closed on the 31st March 1917 with an expenditure of Rs. 10,10,66,394 against the estimated amount of Rs. 10,36,81,985, showing a saving of Rs. 26,15,591.

9. The length of channels in operation at the end of March 1917 was 19,267, viz. 4,399 miles of main and branch canals and 14,868 miles of distributaries. Sixty-seven miles of canal and branches and 394 miles of distributaries were opened for the first time for irrigation during the year.

10. The estimated value of crops raised on all canals for the year under review is Rs. 32,09,18,736 as compared with Rs. 27,50,82,336 for the previous year. These figures represent averages of Rs. 35.75 and Rs. 32.4, respectively, per acre matured. The calculations are based on the outturn and prices given in the seasons and crops report for the year 1916-17, and the Lieutenant-Governor believes the estimates to be studiously moderate.

11. The growing importance of irrigation to the people and to Government and the steadily increased profits it secures to both are the strongest arguments for extending the irrigation system wherever conditions are favourable, and several promising projects are now under the consideration of Government:—

- (1) The project estimate for the construction of a barrage across the River Jhelum, at its exit from the Woolar Lake, which was prepared by Mr. R. E. Purves, C.I.E., late Chief Engineer, Irrigation Works, Punjab, in the summer of 1915, and which was noticed in the review for the previous year, is now being further considered in connection with its financial details. The object of this scheme is to store water in the Woolar Lake during the monsoon period for use in the Punjab canals during the rabi season. The Lieutenant-Governor has recently had an opportunity of discussing the project on the spot with Mr. Woods and the Kashmir Darbar and their officials and he trusts it is now on a fair way towards realization.
- (2) In accordance with the orders received from the Government of India in 1915-16, the project estimate in connection with the utilization of the surplus waters of the Sutlej River below its confluence with the Beas, was modified.

This project is intended—

- (i) to maintain the supply of water to the area now served by existing Inundation Canals, and
- (ii) to utilize the balance in the British and Native States territories to the best advantage.

The project is estimated to cost Rs. 9,90,44,075 with an annual income in the 10th year after completion, of Rs. 97,39,365 being a net return of 9.8 per cent. on the cost

- (3) Another very promising scheme now being worked up involves the construction of a dam at Bhakra on the Sutlej River about 40 miles above the site of the head works of the Sirhind Canal to head up to a depth of 360 feet above river bed. It is estimated that this dam will impound about two-and-a-half million foot acres during the summer.
- (4) In connection with the Haveli Project noticed in the last year's review more information, in detail, is being collected regarding available cold weather supplies and the effect at Haveli of a dry river below the Rasul Weir. The project is estimated to cost about 165½ lakhs of rupees and to bring in a return of about 6 per cent. on the capital cost.
- (5) Another important scheme which is being elaborated is the Sindh Sagar Project. Preliminary surveys for which were started in November 1915. This project is intended to irrigate about 2 million acres of land in the Sindh Sagar Doab, from a canal taking out on the left bank of the Indus near Mari and opposite Kalabagh. The scheme was partly investigated in 1912, but was put aside as more promising projects were then considered possible. About 30 per cent. of this country lying in the centre of the Doab is covered with sand hills. Both the Lieutenant-Governor and the Financial Commissioner (Mr. Fagan) toured over the Doab in different directions last spring and the conclusion provisionally arrived at is that excluding the very sandy portion of the Central Doab south of the Jhang-Bhakkar Road, there is an ample area of good land, much of it Government waste, to justify the construction of the canal. Accordingly, a rectangular survey by the Survey Department has been put in hand as a basis for a detailed soil survey to be undertaken later by the Revenue Staff. A large amount of survey work has been carried out by the Irrigation Department and information collected by the Revenue Department at various times during the last 44 years and this can be utilized in working up the rough project.

12. The Lieutenant-Governor is very pleased to see that the question of the risk of water-logging due to seepage from canals on the necessity of which he has so often insisted, is not being overlooked. The Hafizabad tract has been much improved by surface drainage, and it is particularly satisfactory to learn that the abnormal monsoon rains of 1916-17, have not arrested the improvement. Certain reaches of the Main Line and Jhang Branch of the Lower Chenab Canal, were lined with water-proof material, but it is difficult to draw definite conclusions as to the value of the work done, in the absence of precise means of measuring its effect. On the Upper Chenab Canal the local drainages have been surveyed, and proposals for improving them to prevent water-logging are under consideration. Around Amritsar tube-walls

are increasing in number and the operating area of the Hydro-Electric pumping scheme is gradually extending, and its effect on this water-logged tract should soon be noticeable.

13. Paragraph 5 of the report gives details of the punishments, Judicial and Departmental, inflicted for misconduct and inefficiency. There is no Department of Government which is brought into closer relations with the people than the Irrigation Branch and on the honest and efficient discharge of their duties by the great body of officials whom the Department controls, the credit of the administration very largely depends. The responsibility of the Superior Officers of the Department for checking abuses, preventing partiality or exactions on the part of the subordinate establishment is a very heavy one, and the Lieutenant-Governor is glad to observe that this all-important matter is now receiving the attention it merits.

14. The posts of Chief Engineers were held during the year under review by—

			<i>From</i>		<i>To</i>
Mr. W. F. Holms	...	...	1-4-1916	...	31-3-1917.
Mr. T. R. J. Ward	...	...	1-4-1916	...	30-12-1916.
Mr. F. W. Woods	...	...	31-12-1916	...	31-3-1917.

The Lieutenant-Governor recorded his appreciation of Mr. Ward's services in his review of the report for the previous year. He desires to thank Messrs. Holms and Woods for their efficient administration and the officers of the Department—which has been seriously depleted by the number of officers who have volunteered for Military service or Engineering and other work in connection with the War—for their admirable devotion to duty in a year of great strain and the splendid results they have achieved for the Government and the people of the Province.

By order of His Honour the Lieutenant-Governor,

W. F. HOLMS,

Secretary to Government, Punjab.

ADMINISTRATION REPORT

OF THE

CANALS IN THE PUNJAB

FOR THE YEAR

1916-17.

GENERAL.

1. The direct receipts and expenditure of the Irrigation Department during the year were as follows :—

CLASS OF WORKS.		Direct Receipts.	DIRECT EXPENDITURE.		
			Capital.	Working expenses.	Total.
		Rs.	Rs.	Rs.	Rs.
Major Irrigation Works.	Imperial	2,77,00,618	34,55,730	1,03,37,740	1,27,93,470
	Contributions	73,662	15,254	5,44,543	5,59,827
Minor Irrigation Works.	Imperial	9,57,305	...	7,81,860	7,81,860
	Contributions	...	...	3,105	3,105
Provincial Canals	...	32,492	...	47,085	47,085
GRAND TOTAL		2,87,04,477	34,71,014	1,17,14,333	1,51,85,317
Average of the three years ending 1915-16.		2,52,97,116	74,35,028	1,05,35,900	1,79,70,928

*Excludes "refunds of revenue."

2. The indirect revenue credited to the canals on account of Enhanced Land Revenue, etc., amounted to Rs. 1,29,51,275. The average credit on this account of the three previous years amounts to Rs. 1,13,14,514.

3. The following table shows the areas irrigated by the several canals in 1916-17 as compared with the averages of the previous triennium :—

Names of canals.					Average of the three years ending 1915-16.	1916-17.
Major Irrigation Works.					Acres.	Acres.
Western Jumna Canal	...	{ Imperial ...	...	...	759,138	748,763
		{ Patiala State	...	...	67,550	79,691
Sirhind Canal...	...	{ Imperial ...	...	...	879,390	891,781
		{ Patiala, Nabha and Jind States	...	...	503,202	533,959
Upper Bari Doab Canal	...	...	...	...	1,153,453	1,201,297
Lower Bari Doab Canal	...	...	...	...	182,025	514,936
Upper Chenab Canal	...	...	...	...	233,685	437,477
Lower Chenab Canal	...	...	...	...	2,280,630	2,286,729
Upper Jhelum Canal	...	...	...	...	...	117,605
Lower Jhelum Canal	...	...	...	...	826,399	804,761
Upper Sutlej Canals...	...	...	...	...	333,238	313,151
Sidhnai Canal	...	...	...	...	285,505	298,556
Indus Canals	...	...	...	...	235,079	265,168
Total Major Irrigation Works.		{ Imperial	...	...	7,168,542	7,880,214
		{ Native States	...	...	570,752	618,653
Minor Irrigation Works.						
Shahpur Inundation Canals	...	{ Imperial	...	...	38,750	46,769
		{ Provincial	...	...	26,768	31,404
Ghaggar Inundation Canals	...	{ Imperial	...	...	19,707	28,327
		{ Bikaner State...	...	...	6,023	12,040
Lower Sutlej Inundation Canals (including Hajiwah Canal)	...	...	...	...	313,586	363,881
Chenab Inundation Canals	...	...	...	...	195,606	205,075
Muraffargarh Inundation Canals	...	...	...	...	377,259	398,458
Ravi Inundation Canals (Provincial)	...	...	...	...	6,779	...
Total Minor Irrigation Works.		{ Imperial	...	...	944,908	1,042,513
		{ Provincial	...	...	33,547	31,404
		{ Native States	...	...	6,023	12,040
Total Major and Minor Irrigation Works.		{ Imperial	...	...	8,113,450	8,922,727
		{ Provincial	...	...	33,547	31,404
		{ Native States	...	...	576,775	625,693
GRAND TOTAL					8,723,772	9,579,824

Financial Results.

4. The canals in the Punjab show the following results for 1916-17 :—

I.—CANALS IN OPERATION CLASSED AS PRODUCTIVE.

Major Works.

				Rs.
Capital expenditure during the year.	Direct charges ...	...	...	34,55,730
	Indirect charges ...	...	...	2,08,979
Total				36,64,709
The capital invested to end of 1916-17 amounted to				22,06,16,193
Income from all sources less refunds (Rs. 7,024) ...				3,96,81,912
Working expenses less refunds (Rs. 7,024) ...				1,09,70,471
Balance excess revenue being 12.99 per cent. on Rs. 22,06,16,193				2,86,61,441
Interest—				
				Rs.
Total Direct outlay to 31st March 1917				21,41,97,441
Less half outlay during 1916-17				17,27,865
Mean Capital at charge				21,24,69,576
Interest on Rs. 21,24,69,576 at 3.2964 per cent.				70,03,847
Net profit after paying interest in 1916-17				2,16,57,594
Ditto ditto 1915-16				1,64,21,265
Ditto ditto 1914-15				1,94,82,697

The earnings of the "9—Major Works" are shown in line 24 of the statement at pages 4 and 5.

II.—IMPERIAL CANALS, MINOR WORKS NOT CLASSED AS PRODUCTIVE.

No capital outlay was incurred during the year on those canals for which Capital and Revenue Accounts are kept, *viz.*, Shahpur Imperial and Ghaggar Canals. The total expenditure on such canals to end of year 1915-16 was, therefore, Rs. 5,92,013, the same as in the previous year.

				Rs.
The income from all sources less refunds (Rs. 480) amounted to ...				19,61,291
Working expenses less refunds (Rs. 480) ...				8,24,572
Balance profit in 1916-17				11,36,719
Ditto 1915-16				9,44,305
Ditto 1914-15				9,47,214

The financial results of each Minor Work are shown in the body of the report.

III.—PROVINCIAL CANALS.

There are only two Provincial Canals in operation, *viz.*, the Shahpur Provincial Canals and the Ravi Inundation Canals.

				Rs.
The income from all sources less refunds (<i>nil</i>) amounted to ...				48,687
Working expenses less refunds (<i>nil</i>) ...				50,013
Balance profit in 1916-17				—1,326
Ditto 1915-16				—5,707
Ditto 1914-15				26,215

5. The total number of dismissals and punishments was 110. Of these 38 were dismissed after departmental enquiry, 5 after judicial enquiry, 7 for serious misconduct, 6 for inefficiency and one for absence without leave. Of the other forms of punishment penal transfers accounted for 24, non-recommendation in rolls 11 and reduction in rank or pay 8. This total does not include disciplinary punishments.

Dismissals and Punishments.

CANALS IN OPERATION CLASSED AS PRODUCTIVE

PARTICULARS.	Serial No.	CANALS IN OPERATION CLASSED AS PRODUCTIVE					
		Western Jumna Canal (including Sira Branch).	Sirhind Canal (Imperial).	Upper Bari Doab Canal.	Lower Bari Doab Canal.	Upper Chenab Canal.	Lower Chenab Canal.
1	2	3	4	5	6	7	8
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
I.—Capital (direct and indirect) outlay to end of							
{ 1915-16 ...	1	1,76,92,595	2,55,66,553	2,18,72,497	2,10,81,992	8,45,01,593	3,17,96,780
{ 1916-17 ...	2	1,76,93,755	2,55,92,813	2,18,97,858	2,18,74,238	8,53,42,184	3,23,55,018
II.—Income realized during the year—							
Direct, viz., water rent and miscellaneous receipts.							
{ 1915-16 ...	3	27,75,361	31,37,789	41,02,676	4,32,311	9,56,256	81,47,760
{ 1916-17 ...	4	29,43,410	42,20,895	45,39,059	7,61,900	23,08,678	67,52,076
Indirect, viz., land revenue due to Irrigation Works, including water-advantage rate.							
{ 1915-16 ...	5	2,30,990	69,551	6,16,293	1,20,986	61,077	74,71,490
{ 1916-17 ...	6	2,08,310	1,42,791	6,53,575	2,02,924	2,51,572	60,56,027
Total Direct and Indirect							
{ 1915-16 ...	7	30,66,351	32,27,340	47,19,969	5,53,497	10,17,833	1,50,22,240
{ 1916-17 ...	8	31,51,750	43,63,676	52,08,884	9,54,893	25,63,550	1,68,80,103
III.—Charges (direct and indirect) for the year—							
Maintenance, including Establishment.							
{ 1915-16 ...	9	14,05,414	12,38,876	19,72,665	6,50,986	8,33,809	32,71,933
{ 1916-17 ...	10	12,59,021	13,67,160	14,19,126	6,26,356	8,39,264	27,19,783
Interest on Capital outlay							
{ 1915-16 ...	11	5,85,885	8,44,273	7,27,665	7,02,171	11,49,972	10,76,007
{ 1916-17 ...	12	5,56,629	8,03,114	6,96,049	6,53,632	11,20,519	10,31,963
Total							
{ 1915-16 ...	13	19,91,400	20,53,131	21,00,420	13,53,166	19,80,690	13,45,000
{ 1916-17 ...	14	19,12,580	21,00,264	21,15,176	13,20,038	19,65,812	27,51,751
V.—Profit and Loss—							
(a) Including Interest on Capital outlay.							
Amount							
{ 1915-16 ...	15	10,14,951	11,44,269	2,78,549	-7,99,569	-9,63,341	1,15,74,210
{ 1916-17 ...	16	12,39,290	21,73,412	30,93,680	-3,55,145	6,01,738	1,39,78,352
Percentage on Capital outlay.							
{ 1915-16 ...	17	5.73	4.47	11.97	-3.79	-2.79	36.40
{ 1916-17 ...	18	7.60	8.49	14.17	-1.62	1.71	40.42
(b) Excluding Interest on Capital outlay.							
On Direct income							
Amount							
{ 1915-16 ...	19	19,69,947	19,98,931	27,50,111	-2,18,474	-1,32,449	51,75,767
{ 1916-17 ...	20	15,57,419	29,33,785	31,20,693	1,85,618	14,70,414	60,42,293
Percentage on Capital outlay							
{ 1915-16 ...	21	7.74	7.43	12.43	-1.04	0.35	18.28
{ 1916-17 ...	22	8.58	11.07	14.29	0.02	4.16	18.67
On total income, Direct and Indirect.							
Amount							
{ 1915-16 ...	23	16,00,937	19,86,482	33,46,401	-97,488	1,69,625	1,23,50,247
{ 1916-17 ...	24	17,96,729	29,76,526	37,89,738	8,38,537	17,25,266	1,41,10,320
Percentage on Capital outlay							
{ 1915-16 ...	25	9.61	7.78	16.29	-0.48	0.53	39.78
{ 1916-17 ...	26	10.15	11.68	17.35	1.55	4.58	43.61

MAJOR WORKS.

						DIFFERENTIAL CANALS, MINOR WORKS, NOT CLASSED AS PRODUCTIVE.		PROVINCIAL CANALS.		Serial No.
Upper Jhelum Canal.	Lower Jhelum Canal.	Upper Fafes (including Lower Bohag and Para).	Sidhnai Canal.	Indus (Hundeshan) Canals.	Total Productive.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue Accounts are kept.	Bahapur Provincial Canals.	Ravi Irrigation Canals.	
9	10	11	12	13	14	15	16	17	18	19
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
4,27,61,110	1,59,85,762	16,18,541	13,37,051	25,53,305	21,09,61,444	5,92,013	...	...	...	1
4,38,49,917	1,60,83,169	16,19,646	13,05,497	22,82,551	22,08,76,193	5,92,013	...	...	...	2
6,231	15,49,444	4,78,046	6,23,452	1,85,918	4,07,97,479	91,634	7,53,575	29,002	891	3
83,531	20,73,210	9,92,226	4,69,405	2,74,500	2,77,00,518	1,02,191	8,55,309	52,492	...	4
...	14,73,343	2,67,157	2,09,320	2,50,037	1,07,92,133	16,107	9,45,812	6,457	893	5
...	17,61,583	2,15,968	1,81,344	4,73,700	1,10,01,294	21,672	0,691,14	12,973	3,222	6
6,231	41,21,563	7,70,103	8,20,770	4,57,175	3,15,99,501	1,00,741	17,51,157	26,359	1,270	7
83,031	47,08,523	6,79,791	6,59,760	1,24,700	3,09,31,912	1,01,553	18,21,423	45,455	6,212	8
3,42,150	7,17,579	4,03,709	1,47,771	4,11,381	1,70,21,116	85,870	8,16,723	40,953	2,353	9
5,40,705	8,92,662	4,41,279	1,77,122	2,77,574	1,09,70,471	77,657	7,16,017	47,600	2,101	10
14,11,029	5,61,771	19,478	41,751	67,917	73,37,21	...	...	...	...	11
13,31,259	1,12,921	76,773	42,627	17,519	70,13,447	...	...	...	...	12
14,11,000	13,77,721	4,79,740	1,91,479	5,39,457	1,41,77,571	8,000	8,15,723	40,953	2,353	13
20,52,755	11,07,871	4,03,032	2,01,735	4,91,123	1,70,74,318	77,655	7,16,017	47,600	2,101	14
-17,40,255	37,67,273	2,50,057	7,41,340	-1,72,022	1,71,21,271	...	...	...	...	15
-10,51,421	22,41,719	1,10,723	87,5,114	84,145	2,10,77,531	...	...	...	...	16
-612	17,37	1623	4616	-341	756	...	...	...	...	17
-445	1035	649	2700	144	082	...	...	...	...	18
-3,35,206	18,31,581	69,035	4,76,878	-2,51,530	1,28,61,975	5,731	-2,99,191	-11,651	-2,001	19
-1,57,104	10,10,748	-49,572	2,61,253	-1,43,785	1,07,83,147	21,611	1,01,392	-15,117	-3,401	20
070	11-17	2-31	55-81	-376	601	097	...	...	...	21
-1-27	12-10	-2-67	22-42	-4-82	768	4-16	...	...	...	22
-3,35,916	83,08,924	3,35,295	6,99,187	-4,439	2,80,59,248	20,811	6,23,401	-4,591	-1,113	23
-5,67,104	37,51,631	1,67,309	4,87,737	1,29,705	2,80,01,441	59,213	10,77,503	-2,141	818	24
070	2970	1650	51-75	-016	1090	572	...	...	...	25
-127	2860	910	3225	436	1209	1000	...	...	...	26

Major Irrigation Works.

WESTERN JUMNA CANAL.

(SUPERINTENDING ENGINEER—MR. G. C. LAURIE.)

1. A small expenditure of Rs. 1,220 (Direct and Indirect) was incurred on completing the subordinates' rest-houses at Jaunti and Anta and the rest-house at Anta.

Capital Account.
Kharif 1916.
Rabi 1916-17.

2. The expenditure amounted to Rs. 1,29,520 (Rs. 1,11,182 under "Imperial" and Rs. 18,338 under "Contribution") and was incurred on numerous small works for increasing the efficiency of the canal and in improvements to buildings.

Extensions and Improvements.

3. The expenditure amounted to Rs. 6,17,830 (Rs. 5,92,095 under "Imperial" and Rs. 25,735, under "Contribution"). In addition to this Rs. 19,557 and Rs. 21,676 were spent by the Patiala and Jind States, respectively, on the maintenance of their distributaries. Apart from ordinary repairs and maintenance of channels and buildings, numerous works of improvement were carried out.

Maintenance and Repairs.

The large Badarpur silting reach, 3 miles long and 1,000 feet wide on Main Line, was again successfully worked.

A 3-mile reach of silting tanks was started between Ghogripur and Jani on the Main Branch.

A marginal bund was constructed, about $1\frac{1}{2}$ miles long, on both banks of the Main Canal at its worst reach, to control the supplies and contain them in one channel. Large sums were also spent on clearance of drains recently taken over from the District Boards and on clearance of Dhanaura Escape on the Main Line.

4. (a) *Kharif*, 1916.—No rain was received in the early part of the season and the river discharge was the lowest on record. There was an enormous demand for filling village tanks and the river supply was quite insufficient to meet the canal indent during April, May and early June. The early arrival of a good monsoon, however, saved the situation which was, otherwise, getting very serious. The cotton crop was lost and dropped from a maximum of 220,330 acres in 1914 to 92,360 acres in 1916. Considerable areas were put down under fodder crops as there had been a fodder famine in the previous cold weather, but the arrival of the early and heavy monsoon enabled most of this to do without irrigation. The *Kharif* crop, though average on the whole, was nearly a lakh of acres below those obtained in 1913 and 1914.

During the monsoon the river was remarkably free from high floods considering the heavy rainfall.

The highest flood gauge registered was 27.5 feet at Ponta on the 18th June against a maximum recorded flood of 38.5 feet on the 14th August 1903.

(b) *Rabi*, 1916-17.—There were good rains in September which ensured a large area of *rabi* sowings. The canal remained in flow for 178 days and was closed for 4 days only in October. The supply was favourable throughout, but there was a keen demand on account of the very large crop and the absence of winter rains. The crop amounted to 480,544 acres, and was the highest on record and was also of good quality.

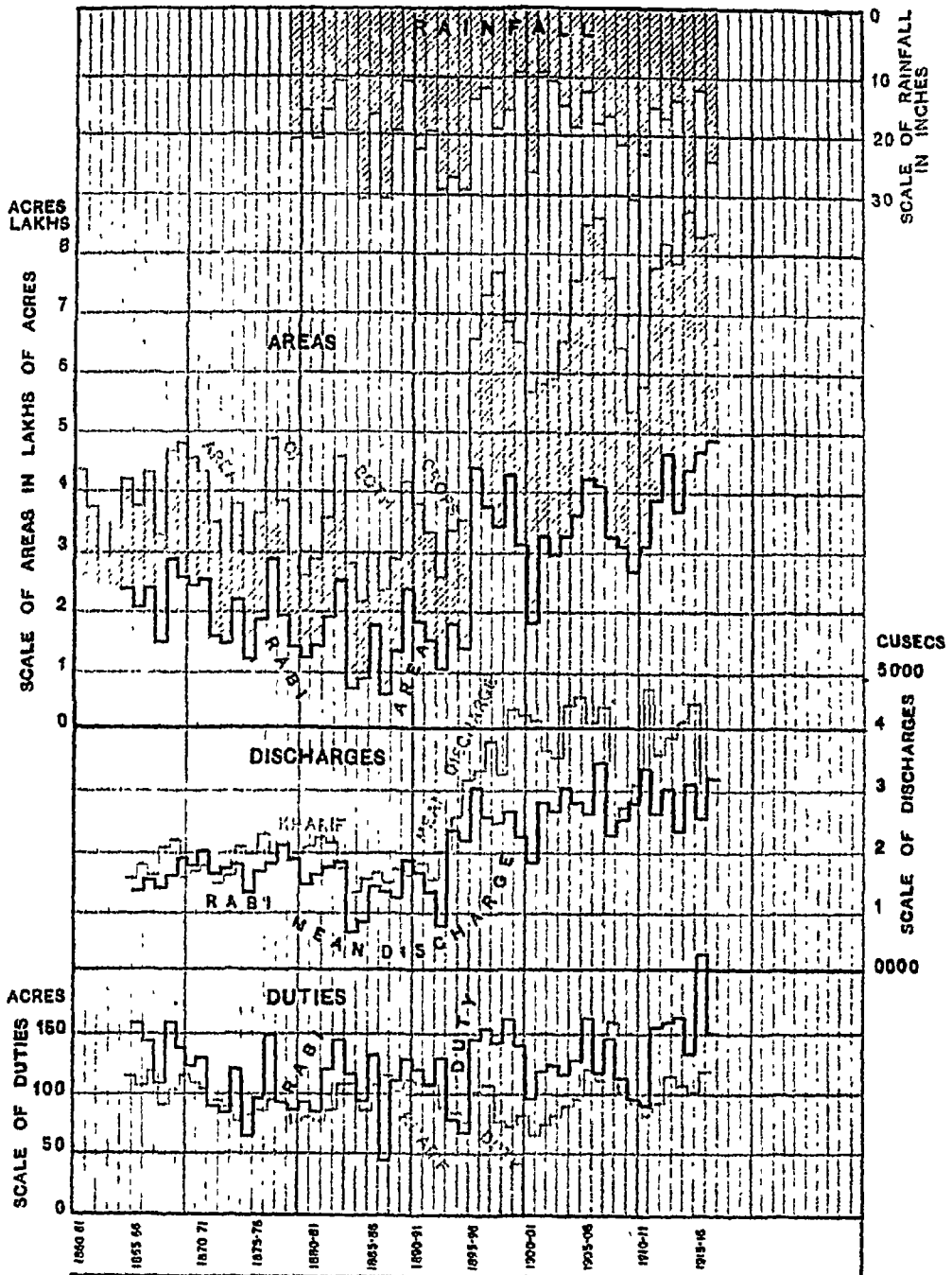
(c) *Rainfall*.—The following table compares the rainfall during the year with the average of the previous years:—

Station.						1916-17.	Average.
						Inches.	Inches.
Ponta	...	...	...	...	...	69.2	57.3
Tajawala	...	...	...	...	...	61.7	52.9
Indri	...	...	...	...	...	28.7	28.4
Nimak	...	...	...	...	...	26.0	23.0
Delhi	...	...	...	...	...	23.3	20.7
Karnal	...	...	...	...	...	37.3	26.6
Dadupur	...	...	...	...	...	52.3	45.3
Hissar	...	...	...	...	...	27.0	14.1
Rohtak	...	...	...	...	...	21.2	17.7

WESTERN JUMNA CANAL.

WORKING RECORD.

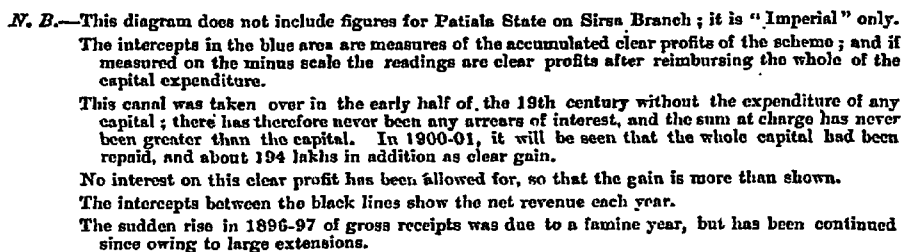
1916-17.



N. B.—The intercepts in the red area show the Kharif acreage each year.
 The areas shown include those done in Patiala State on Sirsa, Branch.
 The discharges are as measured at canal head, and are averages utilized for the whole of each crop.
 The duties are derived from the above areas and discharges.

FINANCIAL RECORD.

1916-17.



5. The following table gives the irrigation effected during the year: also the averages of the two previous triennia :—

Area irrigated,
Kharif, 1916.
Rabi, 1916-17.

Crop.					AVERAGE FOR THE THREE YEARS ENDING		Area irrigated during 1916-17.
					1912-13.	1915-16.	
					Acres.	Acres.	Acres.
<i>Kharif</i>	...	...	...	...	835,585	404,117	317,913
<i>Rabi</i>	...	...	...	...	392,128	422,571	480,544
Total					727,713	826,688	828,157

The area irrigated shows a most satisfactory improvement when compared with that of previous years, and this is due to recent improvements in channels. The area irrigated during *rabi* was the highest on record and exceeded the previous highest in 1912-13 by about 9,000 acres, a most satisfactory result.

The decrease in the *kharif* was due to the unprecedented low supply in the river during the period for sowing.

6. The receipts amounted to Rs. 73,586 and maintenance charges Rs. 5,357, showing a nominal profit of Rs. 68,229 against Rs. 47,113 in 1915-16 and Rs. 59,244 in 1914-15. The profit was largely due to the demand for sleepers created by the war.

No boats are now plying for hire on this canal, the only navigation being raft traffic and boats for carriage of Government material.

7. *Imperial*.—The gross revenue collected during the year amounted to Rs. 31,51,750, which is less by Rs. 1,01,657 than the average for the triennium ending 1915-16.

Financial results based on collection.
Kharif, 1916.

The decrease is due to the poor *kharif* crop of 1916.

The working expenses amounted to Rs. 13,56,021, which is Rs. 24,936 less than the average of the previous triennium.

The net revenue amounted to Rs. 17,95,729 against Rs. 18,72,390, the average of the previous triennium, and Rs. 16,00,937 of the previous year.

Contribution.—The net revenue received by the Patiala State on their channels on the Sirsa Branch amounted to Rs. 1,20,147 or 10.35 per cent. on the capital invested against an average of Rs. 1,52,018 or 13.10 per cent. for the triennium ending 1915-16 and Rs. 1,48,296 or 12.77 of the previous year.

8. (a) *Agricultural and other conditions of the year*.—The canal remained in flow for 339 days during the year and was closed for 22 days during *kharif* and 4 days during *rabi*. The monsoon was a good one and the rainfall above the normal except in the early months of the year. The area of crops remitted amounted to 4,855 acres in *kharif* and 1,879 acres in *rabi*, giving percentages of 1.39 and 0.39, respectively, on the area irrigated, against 6,184 acres for *kharif* and 12,630 acres for *rabi* or 1.71 and 2.72 per cent., respectively, in the previous year.

In the dry districts at Hissar and Rohtak there was severe fodder scarcity during the early *kharif* and the preceding *rabi* crop. Enormous quantities of fodder were imported at concession rates for the cattle and there was great demand for water for village tanks, but despite these measures, a

General Remarks.

large number of cattle died and a large number were sent off to more favoured tracts.

The decrease in number and quality of the cattle had also a detrimental effect on the ploughing for cultivation.

The scarcity had a very unfortunate effect upon plantation. The branches of miles of avenues were lopped by the adjoining villages for fodder for their cattle and the dry branches and twigs blown into the canal channels blocked regulators and bridges and required considerable vigilance on the part of the staff for their prompt removal. It will be some time before the damage to the plantation is made good.

Very little advantage was taken by the zamindars of the concession recently granted for levying no water rates on *Gwar* ploughed in as green manure.

The swampy area along the lower reaches of the Main Line is gradually being improved by the system of expensive silting reaches, and the silted up areas are being now brought under cultivation while the area beyond is being cultivated up to the banks of the silting tanks. The upper reaches of the Main Line also provide most beneficial *sailab* cultivation: several thousand acres of sugarcane and other crops are thus grown from the canal *sailab* free of water rates.

The value of crops assessed to water rates amounted to Rs. 3,51,72,945, which shows that the canal is a very valuable asset to the country.

(b) *Nature and scope of contemplated new works and progress made on the preparation of new projects*—(i) Further designs and estimates for the proposed new Level Crossing at Dadupur have been under consideration. This work is, however, likely to be delayed by the impossibility of obtaining the iron work at a reasonable rate until after the war.

(ii) There are proposals under consideration for remodelling the Head-works at Tajewala.

(iii) There is also a project for substituting minors in place of direct watercourses for the Main Line irrigation.

(iv) The work of redesigning the existing old channels scientifically is being carried forward systematically as funds permit, and the advantage of this is already clear from the increased areas of *rabi* crops.

(c) *Interesting facts relating either internally or externally to the Canal*.—(i) The recent reduction in supply of water to the Delhi neighbourhood carried out at the request of the Chief Commissioner is having most beneficial effects. The garden owners naturally at first protested unanimously against the reductions, but they are now following the example set by official Delhi and are clearing out the thick undergrowth in their gardens and letting in air, and the reduced water supply is found to be sufficient. The insanitary state of these gardens is decreasing and the subsoil water level of the neighbourhood is falling also. The sections of the channels are gradually being reduced to correspond with reduction in discharge.

(ii) Saltpetre has been largely manufactured throughout Rohtak and Hissar Districts owing to the demand for it on account of the war. The water for this manufacture is generally supplied by village tanks filled from the canal, though in some cases local *kacha* wells are used.

(iii) The opening of the Jind-Panipat Railway during the year has been a great convenience to the canal area served by it.

(iv) The introduction of indigo on the canal alluded to in last year's report has not been found to be successful and is being abandoned.

9. *Irrigation in Patiala State*.—The irrigation in the Patiala State from the Sirsa Branch was 32,707 acres in *kharif* and 46,532 acres in *rabi* or a total of 79,439 acres exclusive of 242 acres remitted in *kharif* and 13

acres remitted in *rabi*. The average area assessed for the last two triennia ending 1915-16 and 1912-13 was 67,179 and 61,307 acres respectively.

Irrigation in Jind State.—The supply which the Irrigation Branch has undertaken to allow the Jind State is 353 cusecs in order to irrigate an area of 60,000 acres in the year. The irrigation done during the year was 64,253 acres, resulting in an increase of 6,396 acres or 11.0 per cent. over the figures of 1915-16, i. e., 2,859 acres during *khari*f and 3,537 acres during *rabi*. The average areas irrigated during the two previous triennia ending 1912-13 and 1915-16 were 59,449 acres and 61,640 acres respectively.

Besides the area recorded above, the Jind State gets an average of 1,000 acres of irrigation from the Butana Branch which is assessed at the water rates prescribed for the British areas on the Western Jumna Canal.

The maintenance and assessment connected with all Jind distributaries are controlled by the State itself.

The following table shows the working of the Jind State distributaries as reported by the State :—

Particulars.	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.
<i>Receipts.</i>	Rs.	Rs.	Rs.	Rs.	Rs.
Occupier's rate	2,60,401	2,84,720	2,83,998	2,62,054	2,59,054
Miscellaneous	5,023	5,340	5,093	5,078	5,800
Total	2,65,424	2,90,060	2,89,091	2,67,132	2,64,854
<i>Working expenditure.</i>					
Establishment	9,414	7,561	7,817	7,397	10,191
Other expenses	24,996	27,258	23,865	31,776	21,676
Occupier's rate paid into British Treasury .	1,42,356	1,31,070	1,31,000	1,31,070	1,31,000
Total	1,76,766	1,65,889	1,62,682	1,70,243	1,62,867
Profit or loss	+88,747	+1,24,261	+1,26,899	+97,559	+1,00,187

Irrigation in Bikaner State.—The Western Jumna Canal has also to irrigate 460 acres annually in the Bikaner State from the tail of the Hissar distributary. The areas actually irrigated were 324 acres in *khari*f and 637 acres in *rabi*, or a total of 961 acres against 483 acres in *khari*f and 85 acres in *rabi* or a total of 568 acres of the previous year. This area pays the ordinary occupier's rates and is assessed by the Canal Staff.

Irrigation in Kalsia State.—The irrigation in Kalsia State from Main Line of the Canal was 739 acres in *khari*f and 793 acres in *rabi* or a total of 1,532 acres exclusive of 23 acres remitted in *khari*f and 117 acres in *rabi*. This area also pays the ordinary occupier's rates and is assessed by the Canal Staff.

The average area assessed for the last three years was 713 acres in *khari*f and 896 acres in *rabi*.

SIREHIND CANAL.

(SUPERINTENDING ENGINEER—MR. E. R. FOX.)

1. (a) *Imperial.*—The expenditure (direct and indirect) amounted to Rs. 36,255 and was incurred on fixing Stoney gates in Rupar undersluices and lock channel, and constructing Executive Engineer's quarters at Rupar; a girder cart bridge at Sahauli, Mile 19, Abohar Branch; and a foot bridge at Bull, Mile 7, Abohar Branch.

(b) *Contribution.*—The expenditure of Rs. 15,284 represents the share borne by the signatory States, of the expenditure incurred on the Head Works and Main Line of the canal.

2. (a) *Imperial*.—The expenditure amounted to Rs. 1,35,272 against Rs. 1,34,403 in the previous year. The only work of importance was the Slab Lining Experiments on the Main Line. A large number of slabs were made, but the work could not be completed for want of a canal closure. Considerable progress was made on raising and widening the sunken bridges on distributaries in the Ferozepore Division. Amongst minor works of importance are—raising and renewing the shoots of Jaghera Mills; constructing drinking reservoirs at certain rest-houses; improving Gahil rest-house and making a telephone office and Gauge-Reader's hut at Gholia.

(b) *Contribution*.—Expenditure amounted to Rs. 1,21,675, of which Rs. 82,383 represents seigniorage charges. The balance of Rs. 39,292 is partly the share of expenditure on works on the Main Line and Head Works and partly the expenditure incurred on huts for petty establishment, erecting iron railings on ramps of bridges, etc., on Native States branches.

3. (a) *Imperial*.—The expenditure was Rs. 5,75,544 against Rs. 4,19,363 in 1915-16. The excess of Rs. 1,56,181 was caused by very heavy expenditure on the Budki, Siswan and Sugh torrents which had been rather neglected in previous years. A regular policy of training and defensive works was instituted. New and substantial forms of protection were adopted and it is confidently anticipated that after further work to be done in 1917-18, based on the experience gained in the current monsoon, we should have an impregnable series of protective works which should necessitate little or no repair work in future years.

Whereas of the works carried out in the ten years prior to 1915 little remains, the substantial works built in the winters of 1915-16 and 1916-17 have on the whole stood very well, and signs of weakness or defects in the designs will be removed this year and the future can be looked to with confidence.

All the above heavy works were carried out in addition to the ordinary maintenance of channels, works and buildings.

(b) *Contribution*.—The expenditure was Rs. 2,22,061 as compared with Rs. 1,42,931 spent in the previous year. The increase is due to heavy work on the torrent crossing the Main Line referred to in the previous paragraph.

4. (a) *Kharif, 1916*.—The canal was in flow for 125 days. The failure of the winter rains of 1915-16 led to a keen demand in the early months for water for fodder crops. This was followed by a heavy and well-distributed monsoon, and demand ceased entirely, so that the canal was closed all August. There was only a moderate demand in September. In spite of good rainfall the area irrigated, owing to extensive sowings early in the year on the whole canal, was the second highest on record, being only about Rs. 10,000 acres less than the maximum of 555,208 acres in *Kharif* 1914.

(b) *Rabi, 1916-17*.—The canal was in flow throughout the season. Owing to a heavy monsoon which was prolonged into October there was not an excessive demand early in the season. The river was high and rotational turns did not begin till 10th November, after which the supply fell and remained low throughout the season. There was no rise in the river owing to the failure of the winter rains and absence of storms in the hills, also there was no snow in the lower ranges of hills. The whole of the available supply was required for land already canal irrigated, and there was no water to spare for the large *barani* area which had been sown and, in the absence of rain, required canal water to mature.

The cultivators on this canal gamble on the rainfall. Had the river been kinder a large portion of the *barani* area would have become canal irrigated to the advantage of the cultivators and the canal.

(c) *Rainfall*.—The table below compares the mean rainfall of the year over the irrigated tract in each district with the average mean of 33 years. The *kharif* rainfall was up to or in excess of the average, but the *rabi* rainfall was in considerable defect:—

District.	Crops.	RAINFALL.		Percentage of actual to average of 33 years.
		1916-17.	Average of 33 years	
Ludbiana	<i>Kharif</i> , 1916 ...	15.58	15.82	
	<i>Rabi</i> , 1916-17 ...	1.74	3.25	
	Total ...	17.32	19.07	91
Perozepore	<i>Kharif</i> , 1916 ...	14.35	11.58	
	<i>Rabi</i> , 1916-17 ...	0.75	2.14	
	Total ...	15.10	13.72	110
Native States	<i>Kharif</i> , 1916 ...	16.70	15.08	
	<i>Rabi</i> , 1916-17 ...	2.40	3.05	
	Total ...	19.10	18.13	105

5. The following table compares the irrigation effected during 1916-17 with the averages of the two triennia ending 1912-13 and 1915-16:—

Area irrigated.
Kharif, 1916.
Rabi, 1916-17.

Crop.			Average of three years ending 1912-13.	Average of three years ending 1915-16.	1916-17.
			Acres.	Acres.	Acres.
BRITISH BRANCHES.					
<i>Kharif</i>	...	...	258,200	321,756	333,500
<i>Rabi</i>	...	...	605,913	557,934	558,191
Total	...	...	864,113	879,690	891,781
NATIVE STATES BRANCHES.					
<i>Kharif</i>	...	...	148,528	191,459	211,186
<i>Rabi</i>	...	...	207,264	308,743	322,775
Total	...	...	445,792	500,202	533,959
BRITISH AND NATIVE STATES BRANCHES.					
<i>Kharif</i>	...	...	406,728	516,215	544,774
<i>Rabi</i>	...	...	903,177	866,377	880,996
Total	...	...	1,309,905	1,382,592	1,425,740

These figures show that the irrigation for the year was in excess of the average of either of the triennia quoted, although there was a decrease of 81,327 acres compared with the area irrigated in the previous year; this defect was in the *rabi*, the *kharif* was a very good one and the second highest on record, 544,774 acres against the maximum of 555,208 acres in *kharif* 1914.

The *rabi* area of 880,966 acres was over the average of the triennium ending 1915-16, but slightly less than the average of the triennium ending 1912-13. The latter period was affected by the *rabi* crops of two very favourable years 1911-12 and 1912-13.

However, we may claim to have had a very favourable year; the total area irrigated has only been surpassed on three occasions, *viz.*, in 1911-12, 1912-13 and 1915-16. The percentages of increase over the triennium ending 1915-16 were 5.53 in *kharif* and 1.63 in *rabi*.

The Native States branches also did very well, the *kharif* area being the highest on record, *viz.*, 211,184 acres.

6. The details of traffic in tonnage and receipts is shown in this table :—

Particulars.	1915-16.	1916-17.
Tonnage carried	31,249	24,209
Value of tonnage	11,72,252	924,557
Toll receipts and raft dues	17,158	15,141
Maintenance charges	5,834	3,628
Number of passengers carried	20,605	18,409

There was a reduction in maintenance charges, and in consequence the net return was better than in the preceding year in spite of lower tonnage and fewer passengers.

7. (a) *British Branches*.—The net revenue earned by the British branches amounted to Rs. 29,76,526 equivalent to 11.63 per cent. on the capital invested as against 7.78 per cent. in the previous year. This favourable result was due to—

Financial results based on Collections.
Rabi, 1915-16.
Kharif, 1916.

(a) the very good *rabi* of 1915-16 (second highest on record) collected in 1916-17;

(b) an uncollected balance of Rs. 1,35,000 at the end of previous year collected during the year;

(c) the very poor *rabi* of 1914-15 (collected in 1915-16).

The following table gives the amount of occupier's rates collected and balance uncollected :—

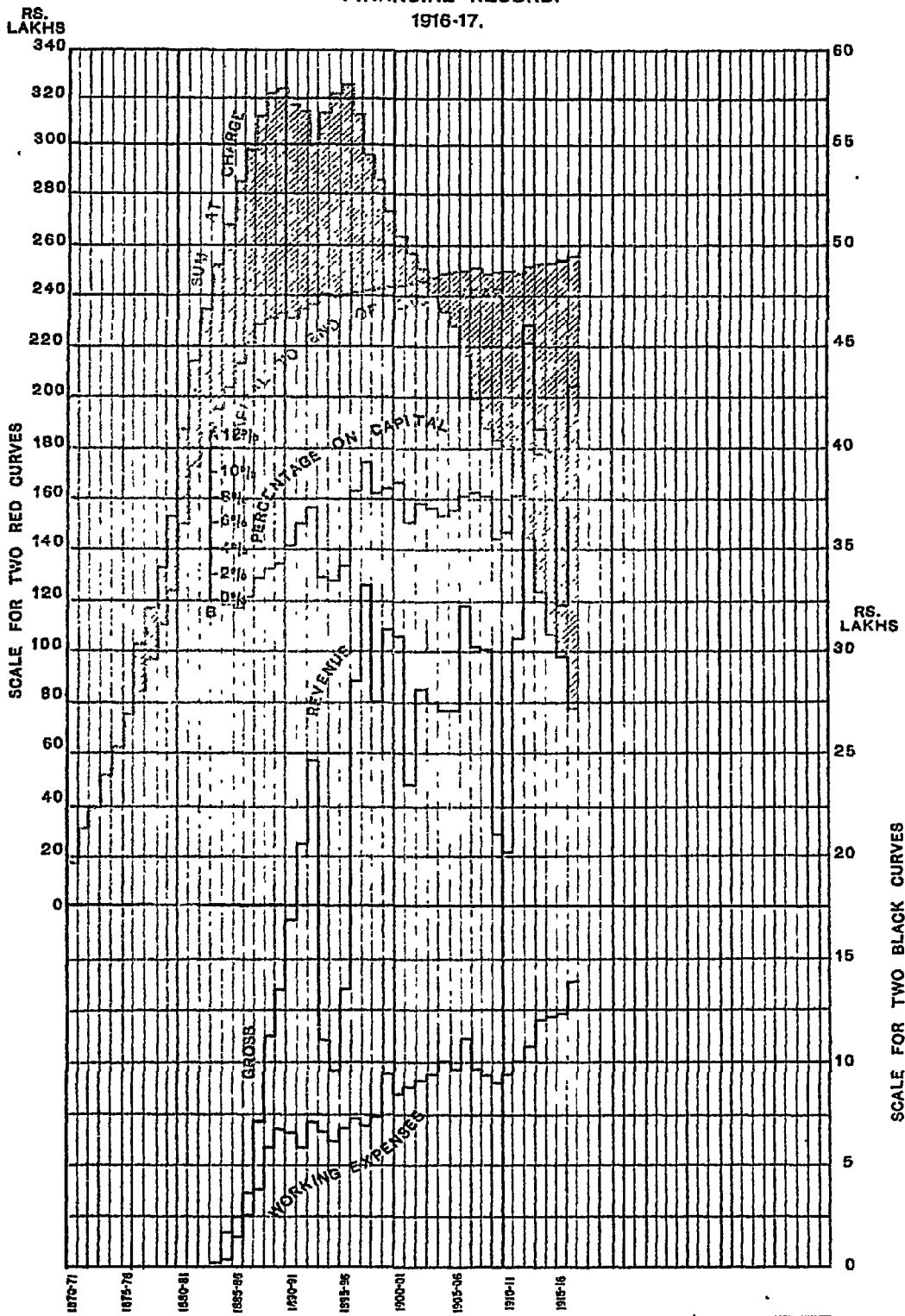
Year.	Collected.	Balances uncollected.
	Rs.	Rs.
1914-15	35,92,152	28,909
1915-16	28,09,289	1,35,547
1916-17	39,53,965	23,098

The working expenses were Rs. 13,87,150 which was 1,48,292 more than in the previous year. The excess has been explained in paragraph 3 (a) *supra*. The working expenses per acre irrigated were 1.56 against 1.24 in the previous year.

SIRHIND CANAL—BRITISH.

FINANCIAL RECORD.

1916-17.



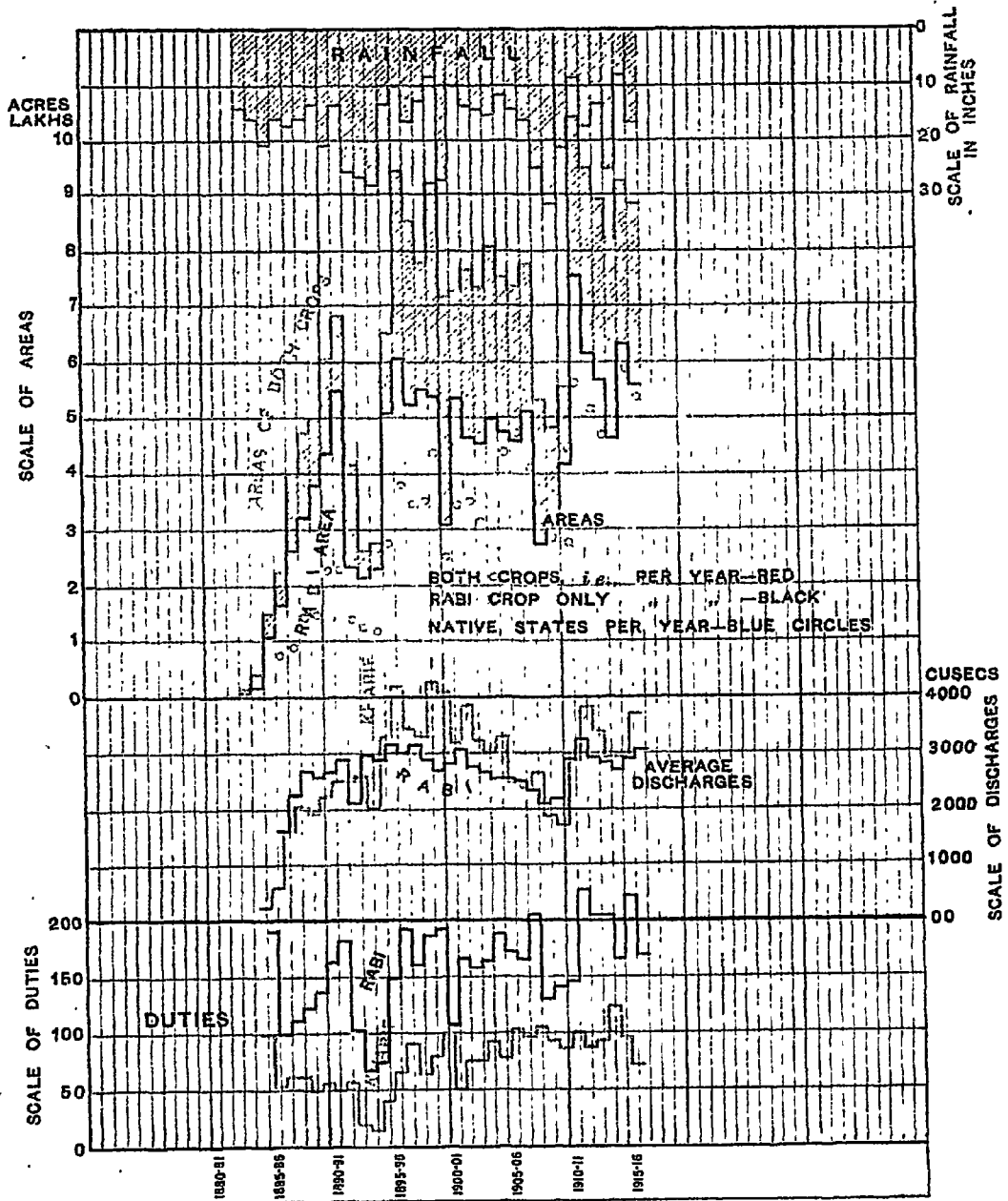
N. B.—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge. Where the two red curves cross all such arrears were wiped off, and there after accumulated profits accrue, as measured by the intercepts in the blue area.

The scheme was begun about 1870 and opened in 1883-84. The lapse from prosperity shown in period 1888 to 1896 was partly due to silt troubles since overcome, and to exceptionally heavy rain.

The intercepts between the black curves give the net revenue.

No interest is charged on the arrears of interest, so the sum at charge is somewhat untrue.

SIRHIND CANAL—BRITISH. WORKING RECORD. 1916-17.



N. B.—The intercepts in the red area give the Kharif acreage each year.

The small areas of 1892 to 1896 were partly due to silt difficulties, but chiefly to heavy rain. The working is more or less unsteady always.

The discharges are measured in main line 26 miles from the head. Of the whole supply 36% goes to Native States, not included here; so that the discharges here shown are only 64% of the actual flow.

These States ought therefore to do areas equal to $\frac{36}{64}$ ths of those shown above. The actual areas done for both crops are shown for comparison by blue circle, and it will be seen that owing to less efficient management they have done less than half the British, instead of $\frac{36}{64}$ ths. In winter the whole river is taken in; in Kharif the supply is more than enough, but the demand is then always low.

(b) *Native States Branches*—The following table compares the figures of collections, assessments, profits and area assessed with the previous year:—

Year.	AMOUNT OF REVENUE.		Area assessed.	PROFIT ON	
	By collection.	By assessment.		Collection.	Assessment.
	Rs.	Rs.			
1915-16 ...	22,46,852	25,94,262	577,811	9-90	12-33
1916-17 ...	25,72,310	24,22,608	532,050	11-35	10-33
More or less ...	+3,25,458	-1,71,654	-45,761	+1-48	-2-00

The profits on "collections" are high because of the good *rabi* crop of 1915-16 collected in 1916-17. The estimated profits on assessments are lower because of the smaller *rabi* crop of 1916-17.

8. *New projects*.—(a) An estimate for constructing two small distributaries for irrigation in the Maler Kotla State has been submitted to the Government of India and

their orders are awaited.

(b) The Bhakra Dam Project (in previous years referred to as the Neith Dam) is in course of preparation. The areas to be served and the volumes required for them have now been fixed. All field work is practically finished and alignments of new main channels have been selected. The site of the new headworks below Phillaur near the battlefield of Aliwal of the 1st Sikh War has been fixed. In the reservoir area complete plans have been prepared on village maps showing all details of the submerged areas. Investigations as to silt capacity of water borne in the Sutlej above Bhakra and at Ruper have been carried out. Detailed proposals for the design of the Dam itself, its sluices and spillways are under consideration. It is anticipated that the total area of new irrigation will average 1,500,000 acres annually.

(c) A small project for utilizing the waste waters of the Sutlej Navigation Channel (run in the *kharij* to work mills) to irrigate the country in the neighbourhood of Perotepora is also under preparation.

Effect of enhancement of water-rates.—The effect of enhancement of water rates in the case of sugarcane, cotton and wheat has not been such as to restrict the areas under these crops. Compared with the previous year the results are as follows:—

Sugarcane.—Area irrigated 1,725 acres against 1,071 in the previous year.

Cotton has made a big jump—10,773 acres sown in 1916 against 1,631 acres in the preceding year. This rise is due to far better market rates than prevailed in the previous year.

Wheat.—The area under wheat has dropped from 299,013 in 1915-16 to 258,220 in the year under review, but this falling off is only due to the general decrease in the whole area of the *rabi* crop.

Agricultural conditions.—The year may be looked on as generally favourable. The monsoon of 1916 was favourable and well distributed, permitting large *barani rabi* areas to be sown. If there had been winter rains the crop would have been a bumper one. As it turned out canal irrigated crops were average to good; *barani* crops poor to average.

Some hail in March did slight damage in the Ludhiana and Bhatinda Divisions; considerably more damage was done by the rain which fell in April and May this year which interfered with harvest operations and damaged grain on the winnowing floors.

The area of failed crops on which water-rates were remitted was only 10,212 acres against 32,603 in the preceding year.

Interesting facts.—The period for which the Project Division was sanctioned had to be extended for a year till October 1917. It will be necessary to ask for a further extension of six months.

The necessity for another irrigating Division was recognized, but the scheme is held in abeyance till the cessation of the war owing to additional expenditure involved. The question of extending the area on which perennial should be converted into *kharif* irrigation in order to improve water-logging conditions is under consideration again.

UPPER BARI DOAB CANAL.

(SUPERINTENDING ENGINEER—MR. F. W. K. YEOMANN).

1. The expenditure (direct and indirect) on works, excluding Suspense, amounted to Rs. 1,25,769 against Rs. 4,79,600 in the previous year, and was incurred on remodelling the Head Works at Madhopur; the Hydro-Electric Installation at Amritsar; and lining the Main Branch Lower with cement plaster.

Capital account,
Kharif, 1916.
Rabi, 1916-17.

The sum of Rs. 1,25,769 includes Rs. 34,847 on account of expenditure in England. The Suspense account showed a credit balance of Rs. 1,55,923 compared with the credit balance of Rs. 1,30,418 in the previous year.

2. Expenditure amounted to Rs. 1,06,811 against Rs. 1,02,058 in the previous year, and was chiefly incurred on constructing outlets and culverts, Niaz Beg Distributary; remodelling Ghosal and Tarpai Drains; and providing gates and winches for Sathiali Regulator. Besides these a number of other miscellaneous works of an urgent nature and of small magnitude were executed.

Extensions and Improvements.

3. Expenditure amounted to Rs. 4,63,600 against Rs. 5,36,636 in 1915-16. In addition to the ordinary annual maintenance and repairs expenditure was incurred on the following important items:—Works in the river at the Head Works; shingle clearance from the Main Canal and Feeders; extending boulder pitching in the Main Line and Main Branch Upper and on numerous petty works.

Maintenance and repairs.

4. The total output of manufactures during the year amounted to Rs. 2,13,124 (in addition to the cost of munition work) against Rs. 2,61,834 in the previous year. The percentage charges realized on the value of work done amounted to Rs. 67,560 only against Rs. 1,04,581 of the previous year, but, in addition to this, a sum of Rs. 68,968 on account of departmental charges on munition work was credited. The Power Station of the Amritsar Hydro Electric Pumping Scheme was completed. Munition work continued for about nine months of the year and the expenditure on this special work amounted to Rs. 2,35,033 which was transferred to the Railway Board (Munitions).

Central Workshops.

A considerable amount of work was done for other circles in connection with—

- (i) remodelling Khanki Weir Shutters;
- (ii) fitting the Meral Regulator with standing gear and balanced gates;
- (iii) remodelling the Rasul Regulator, etc.

5. The following table compares the area irrigated during the year with the average of the two previous triennia:—

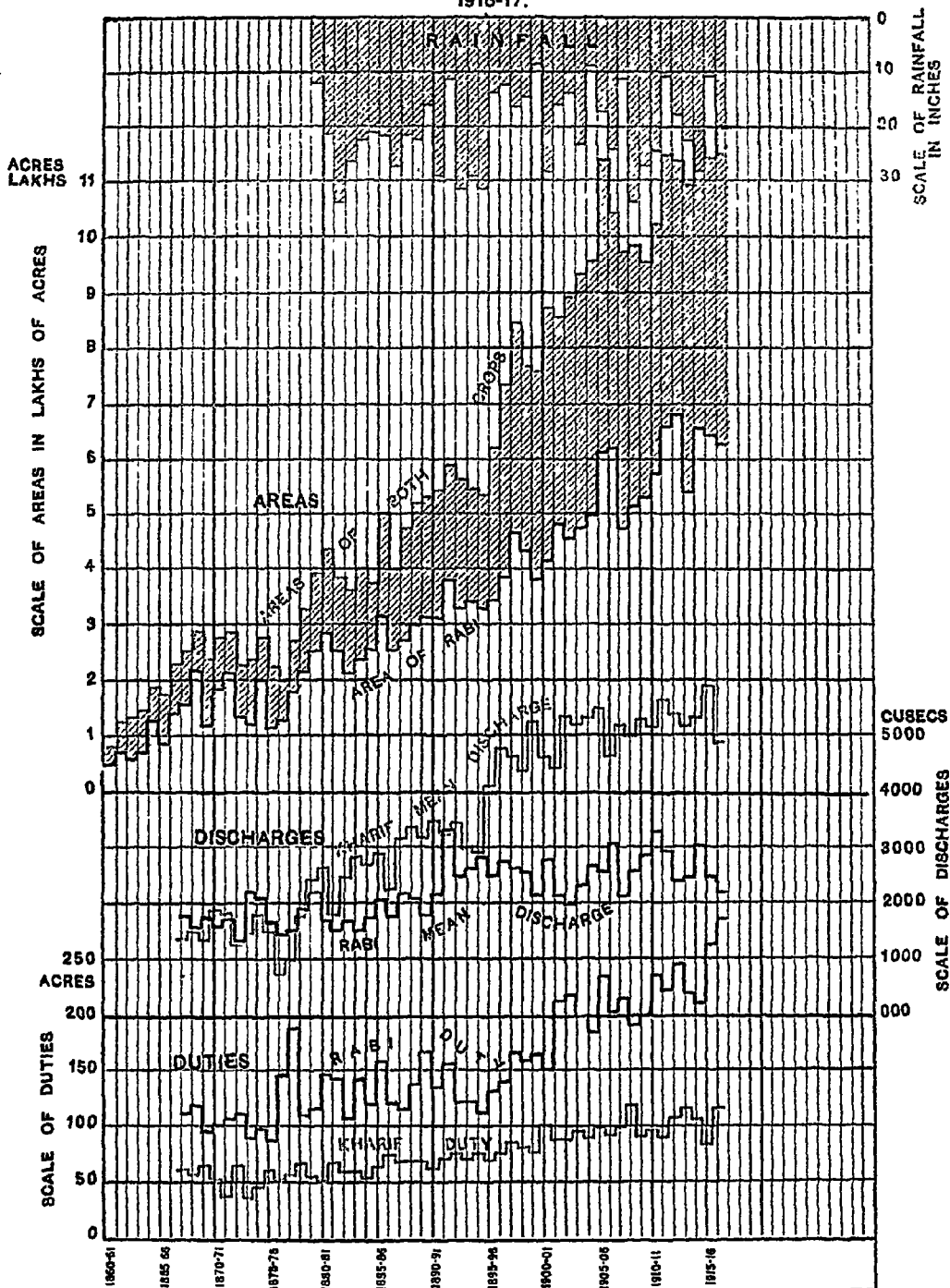
Area Irrigated,
Kharif, 1916
Rabi, 1916-17.

Crop.				AVERAGE OF 3 YEARS ENDING		AREA IRRIGATED DURING
				1912-13.	1915-16.	1916-17.
				Acres.	Acres.	Acres.
Kharif	...	...	...	498,702	529,633	569,406
Rabi	...	...	...	622,287	623,770	631,991
Total				1,120,989	1,153,403	1,201,407

UPPER BARI DOAB CANAL.

WORKING RECORD.

1916-17.



N. B.—The intercepts in the red area show the Kharif acreage each year.

The discharges are measured at canal head and are averages for each crop.

The duties are derived from these areas and discharges.

Remarks.—The Kharif duty is fairly uniform and increasing slowly.

The Rabi duty is more irregular, due to variation in demand, but is increasing recently.

The Rabi supply decreased fairly steadily from 1891-92 to 1902-03, but nevertheless the areas increased owing to higher duty.

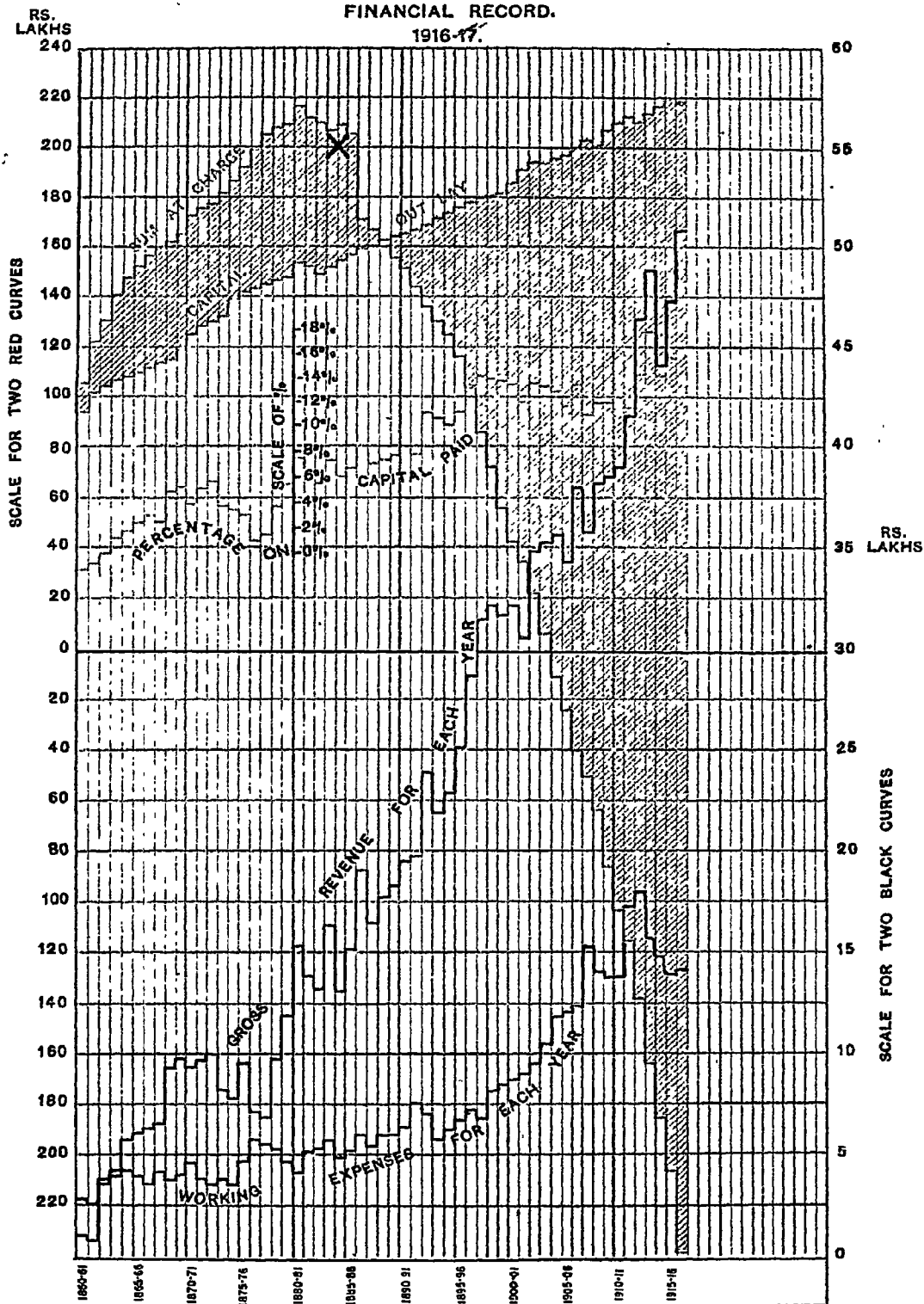
The Kharif supply has increased since 1884 very considerably, owing to the capacity of the canal being enlarged.

Usually the whole of the river winter supply is taken in for the Rabi crop, but after March and up to September the river supply is in excess of requirements.

UPPER BARI DOAB CANAL.

FINANCIAL RECORD.

1916-17.



N. B.—The intercepts in the red area show arrears of interest unpaid up to end of each year, which being added to the capital give sum at charge.

The intercepts in the blue area give the accumulated profits. In 1904-05 the whole capital was reimbursed.

No interest is charged for the sums in the red area, so the diagram is rather distorted in this respect.

The intercepts between the black curves give the net income each year.

Remarks.—The sudden drop at X is partly due to a write-back of about 30 lakhs, but was continued by the rapid development of irrigation in the lower reaches of the canal. Up to 1886-87 the canal worked at a loss, since then it has been very profitable.

Nature of Seasons and State of Demand and Supply.
Kharif, 1916.
Rabi, 1916-17.

6. The mean rainfall is compared with the averages of the previous three years in the following table:—

District.	1916-17.		AVERAGE OF PREVIOUS 3 YEARS ENDING 1915-16.	
	Kharif.	Rabi.	Kharif.	Rabi.
Gurdaspur	28.21	1.51	26.73	7.02
Amritsar	27.56	0.39	17.14	5.49
Lahore	21.89	0.73	12.87	4.09

The monsoon of 1916 was, on the whole, a very favourable one. Rain was general during June, July, August and September, and was particularly heavy during July and August when rain was recorded on 15 and 18 days, respectively, at Madohapur.

A short break occurred from 1st to 17th September, but after that rain continued up to 5th October when the monsoon ended.

From 6th October to the end of March there was no rain except for isolated showers of small amounts during January and March, and the failure of the winter rains put a very great strain upon the canal, more especially as the river supply was abnormally low. However, in spite of the extremely unfavourable conditions, the large rabi area was matured without any unusual remissions having to be given.

7. The net income (direct and indirect) amounted to Rs. 37,89,733, equivalent to 17.35 per cent. on the capital invested against 15.29 per cent. of the previous year.

Financial results based on collections.
Rabi, 1915-16.
Kharif, 1916.

The uncollected balance of occupiers' rate was Rs. 15,912 against Rs. 14,975 at the end of the previous year. Remissions of water-rate amounted to Rs. 1,02,704 against Rs. 84,219 in the previous year. The area for which remissions were granted was 29,076 acres compared with 22,850 acres in 1915-16.

8. (a) *Duty*.—The average duty secured on the supply utilized was 117 acres in *kharif* and 285 acres in *rabi* as against 83 and 263, respectively, in the previous year.

General Remarks.

Owing to the failure of the winter rains no extended closure for repairs was possible, but on account of heavy rainfall the canal was closed at the Head from 15th to 28th July.

(b) *Principal crops*.—The principal crops grown during the year are compared in the following table with those grown in the previous year:—

Name of crop.					1916-16.	1916-17.
					Acres.	Acres.
Wheat	...	...	...	...	241,185	248,539
Barley	...	...	...	...	6,951	5,375
Rice	...	...	...	...	72,749	80,854
Maize	...	...	...	...	86,517	74,569
Millets	...	...	...	...	45,907	*137,379
Cotton	...	...	...	...	88,290	147,021
Sugarcane	...	...	...	...	29,301	42,465

*Includes chauri which was not the case last year.

The increase under cotton is noteworthy as it seems to show that the cultivators were eager to take advantage of the high market rates prevailing.

(c) *Agricultural conditions*.—The monsoon of 1916 was extremely favourable and continued up to an unusually late date. Had it not been for this the total failure of the winter rains would have had a much more serious effect upon the agricultural conditions.

Scarcity of water during the *rabi* months prevented the straw growing to its normal length and the outturn of *bhusa* was thus very short, and the untimely rain which fell in April 1917 interfered with harvesting and damaged the grain to some extent.

(d) *Contemplated new works*.—Remodelling Head Works (outlet).

In eight out of twelve bays the old gates were replaced by quick-lifting gates obtained from Messrs. Ransome and Rapier in England and in the remaining four bays similar new gates will be fitted during the next cold weather. The new gates are working very satisfactorily. Four bays of the inlet out of 23 have been fitted with radial arm gates, and it is hoped to provide this type of gate throughout the inlet as soon as materials can be obtained at reasonable rates.

LOWER BARI DOAB CANAL.

(SUPERINTENDING ENGINEER, MR. R. CANNELL).

- | | |
|--|--|
| <p>1. The expenditure (direct and indirect) was Rs. 7,92,271 which raised the total amount debited to the Project at the end of the year to Rs. 2,18,74,263 against the Revised Project Estimate of Rs. 2,20,28,402.</p> | <p>Capital account.
Kharif, 1916.
Rabi, 1916-17.</p> |
|--|--|

The above expenditure includes a temporary debit of Rs. 11,46,636 spent on the construction of water-courses pending recovery from the colonists.

The Revised Project Estimate was closed at the end of the year under review with a saving of Rs. 13,00,715 including the amount to be recovered from colonists.

The expenditure was incurred chiefly on the following works:—

(a) *Head Works*.—Painting ironwork of the Balloki Level Crossing; determining values for the Ravi sand at Balloki to ascertain the limiting safe hydraulic gradient of the barrage; strengthening the Balloki Weir glacis at a cost of Rs. 1,56,451; fixing pressure and relief pipes, for observations, in the new floor; and repairing the stone apron downstream of the weir opposite Bays 1 to 4.

(b) *River Training Works*.—Including necessary maintenance and repairs to embankments and spurs and a planetable survey of the river Ravi above and below the barrage.

(c) *K—Buildings*.—Some quarters for zilladars were completed and the construction of others was held in abeyance owing to stringency of funds due to the war. Superintending Engineer's house and office at Montgomery were completed; also the Nathuwala rest-house. A double set of signallers' quarters (permanent) was constructed at Balloki.

(d) *Plantation*.—Plantation operations were carried out on a small scale only, as expenditure is restricted, avenues were extended and those in existence carefully maintained.

(e) *Distributaries*.—Construction of distributaries 1-L, 2-L, and 8-AR was commenced during the year. 1-L was completed, and the channel excavation of 2-L one-third completed. The project and designs for 8-R were sanctioned.

(f) *Water-courses*.—During the year the construction of water-courses was completed on allotted areas, and in some cases, in advance of colonization.

Extensions and Improvements.

2. An expenditure of Rs. 8,961 was incurred on different petty works.

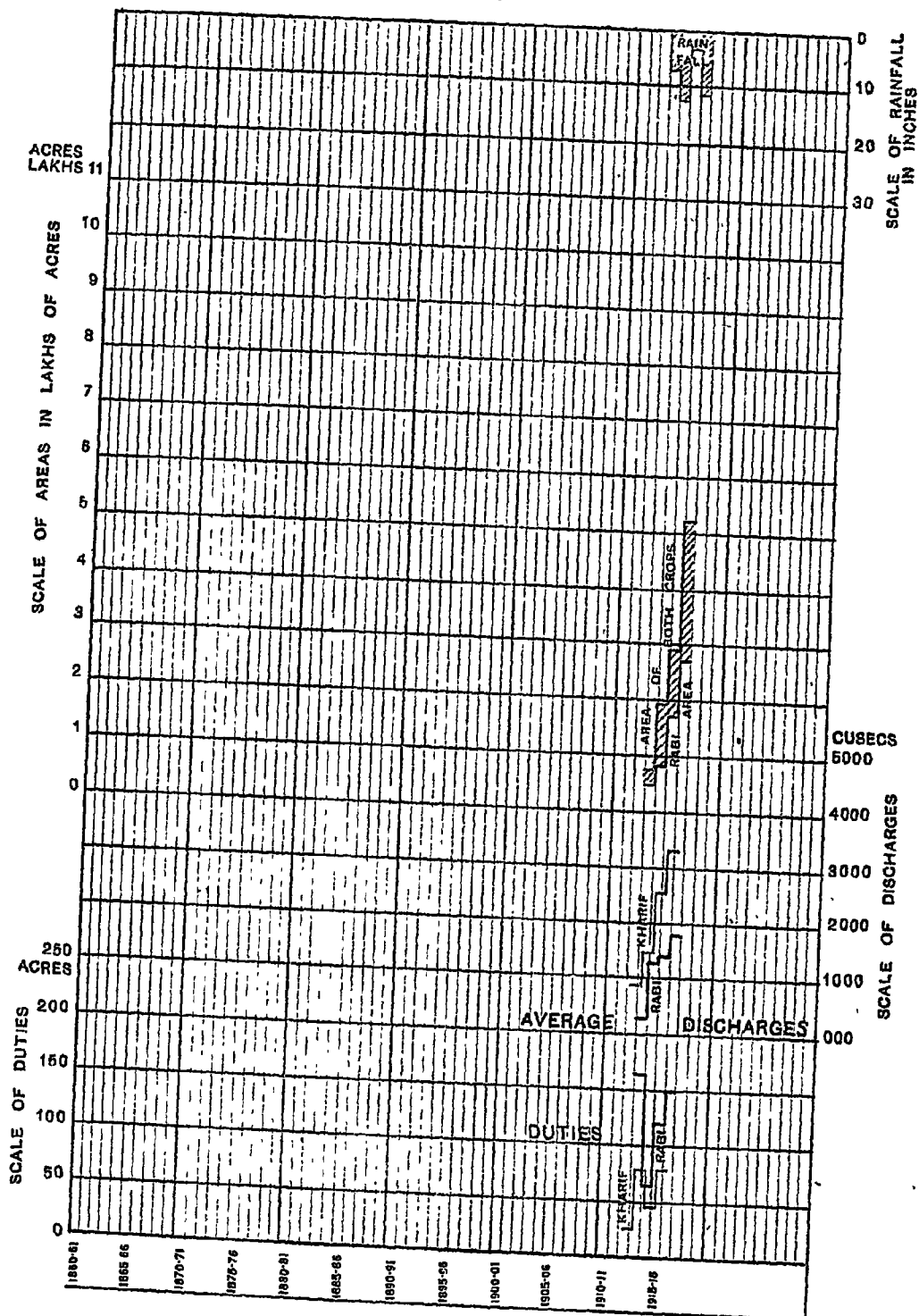
3. An expenditure of Rs. 3,59,646 was incurred on ordinary maintenance of channels, masonry works and buildings, the process of staunching and consolidating new banks and the encouragement of berm formations were continued zealously.

Maintenance and Repairs.

LOWER BARI DOAB CANAL.

WORKING RECORD.

1916-17

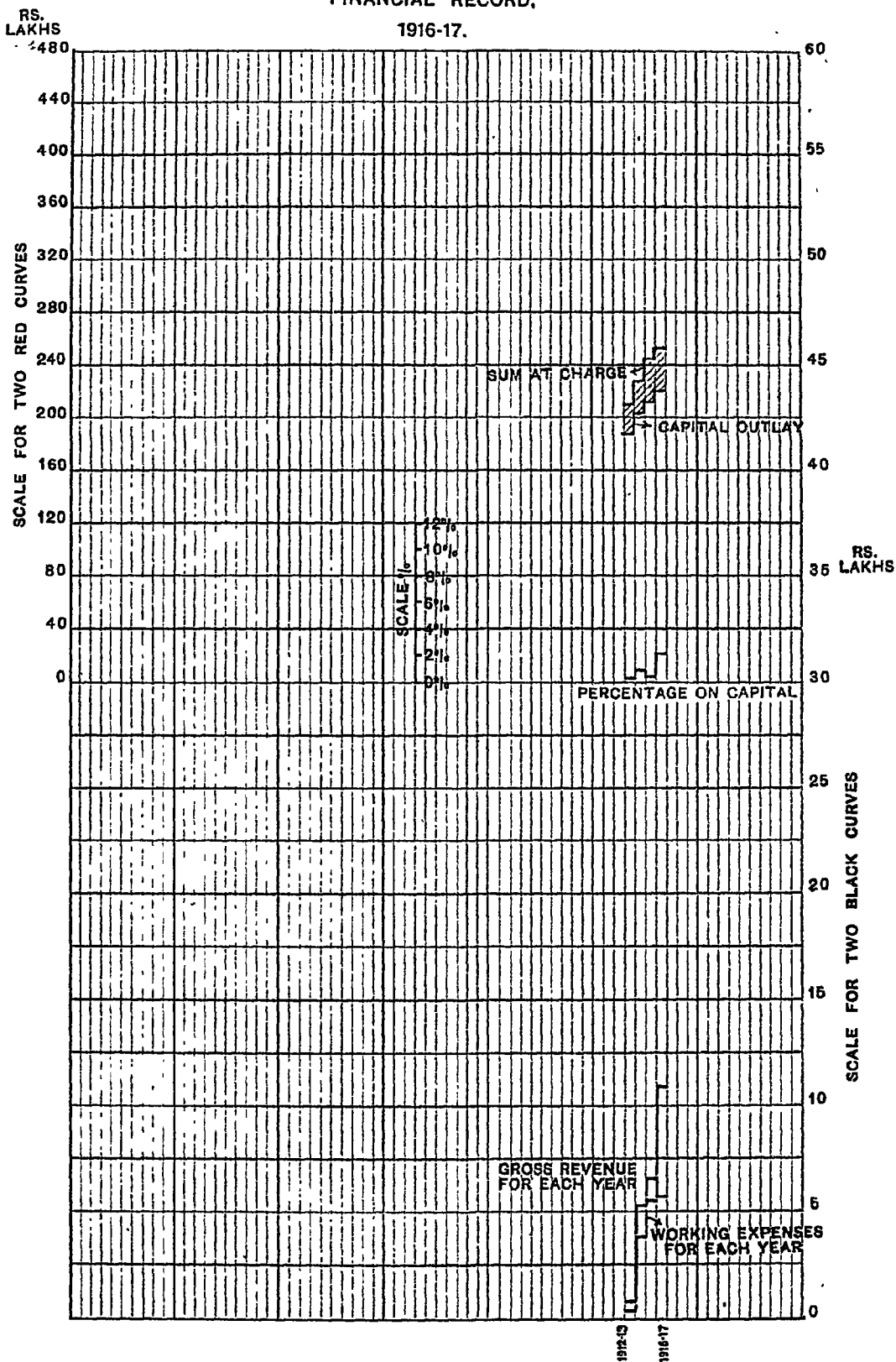


N.B.—The intercepts in the red area show the Khariif acreage each year.
The discharges are measured at canal head and are averages for each crop.
The duties are derived from these areas and discharges.

LOWER BARI DOAB CANAL.

FINANCIAL RECORD.

1916-17.



N. B.—The intercepts in the red area show arrears of interest unpaid up to end of each year, which being added to the capital give sum at charge.

The intercepts between the black curves give the net income each year.

Generally, there were very few breaches, and nowhere was the supply of water restricted and short on account of inefficient channel maintenance.

4. The canal flowed for 343 days (*viz.*, 171 days during *kharif* and 172 days during *rabi*) against 264 days during the previous year. The demand for canal water was good during the *kharif* and very keen in *rabi*.

Nature of Seasons and state of Demand and Supply :
Kharif, 1916.
Rabi, 1916-17.

The rivers in the winter were very low and the water during the *rabi* had to be distributed under a fixed rotational system throughout. Although the Upper Jhelum Canal supplies improved during the winter yet they were still short of full design and, in order to avoid harassment due to the shortage of water, a scheme for water distribution had to be worked out. The winter river supplies proved to be the minimum on record and a shortage was felt.

Rainfall was abnormal during *kharif* 1916 and scanty during *rabi* 1916-17. The rainfall is compared below with the average of the previous year :—

			1916-17.	1915-16.
Lahore	...	...	18.42"	4.27"
Montgomery	...	...	12.90"	4.19"
Multan	...	...	5.46"	2.35"

5. The following table compares the areas irrigated with those of the previous year :—

District.	1915-16.			1916-17.		
	<i>Kharif</i> .	<i>Rabi</i> .	Total.	<i>Kharif</i> .	<i>Rabi</i> .	Total.
Lahore	1,468	1,538	3,056	2,211	1,941	4,152
Montgomery	92,370	131,006	226,376	181,046	106,911	380,957
Multan	21,136	32,726	53,862	62,186	67,641	129,827
Total	114,974	165,320	283,294	245,443	266,493	514,936

Compared with the Project the total area irrigated shows a falling off of 125,064 acres. This was to be expected as the Upper Jhelum Canal, on which the working of this canal is dependent, was opened a year later than it was anticipated in the Project and was not able to carry the full supply intended,—*vide* paragraph 4 above. The abnormally low supply in the rivers and absence of winter rainfall were also the reasons which led to this shortage in irrigation.

6. The gross receipts (direct and indirect) amounted to Rs. 9,64,893 and the working expenses to Rs. 6,26,356, resulting in a net saving of Rs. 3,38,537.

Financial results based on collection :
Rabi, 1916-16.
Kharif, 1916.

7. During the year the Tulamba Sub-Division was constituted in the Khanewal Division for the construction of S-K and S-AR distributaries.

* General Remarks.

The staff of the Montgomery and Okara Divisions were engaged in developing new channels and maintaining a supply of water, necessary for the growth of irrigation. The principal work in the Balloki Division was that of thickening the glacis of the weir at a cost of Rs. 1,65,000. The work was completed satisfactorily.

The Gugera Branch, as a combined *kharif* and perennial channel, was not working satisfactorily and the question of converting it into a perennial channel was under consideration.

Proprietary lands have been broken up and are being irrigated. The available *culturable Crown waste* lands after deducting bad lands, "ghair-mum-

kin," etc., and the total areas of Crown waste land allotted at the beginning and end of the year are given below :—

Canal Division.	CROWN WASTE LANDS, IN ACRES.		
	Culturable area:	Allotted to 1st April 1916.	Allotted to 31st March 1917.
	Acres.	Acres.	Acres.
Balloki ...	}		
Okara ...			
Montgomery ...			
Khanewal ...			
Total ...			

A large area of Crown waste lands of good culturable quality remains to be allotted, and it is necessary for quick development to give them out on temporary leases if not on permanent.

The headquarters of the Circle Office and its staff were moved from Lahore to Montgomery in October 1916.

UPPER CHINAB CANAL.

(SUPERINTENDING ENGINEER—MR. N. WHITE.)

- The construction estimate was closed on 31st March 1917 with an expenditure of Rs. 3,53,42,184 (direct and indirect) including Rs. 8,25,060 transferred to the Upper Jhelum Canal Project, against the Revised Pro-

ject estimate of Rs. 3,65,32,021.

The expenditure during the year amounted to Rs. 8,40,591 and was chiefly incurred in carrying on the construction of the Raya and Nokhar Branch systems; the distributaries on these are now nearly complete; only a few minor channels remain; also in completing the Dog Diversion Channel and on purchasing cast-iron pipes for outlets and on bridges, buildings and embankments.

- The only important work carried out was an extension of one of the river weir groynes at Marala; this groyne was extended downstream to break up a cross current that had set up along the face of the weir; the work, commenced last year, has since been completed and found successful.

The total expenditure was Rs. 25,803 out of which Rs. 21,602 were spent on the above work.

- The expenditure of Rs. 4,65,154 was about 20 per cent. in excess of the previous year, due partly to opening up of new channels and partly to the strengthening of the new banks of the main canal to cope with the higher supplies required by the expansion of irrigation on this and the Lower Bari Doab Canals.

- The following statement compares the rainfall with the previous

Nature of Seasons and state of Demand and Supply. YEARS :—

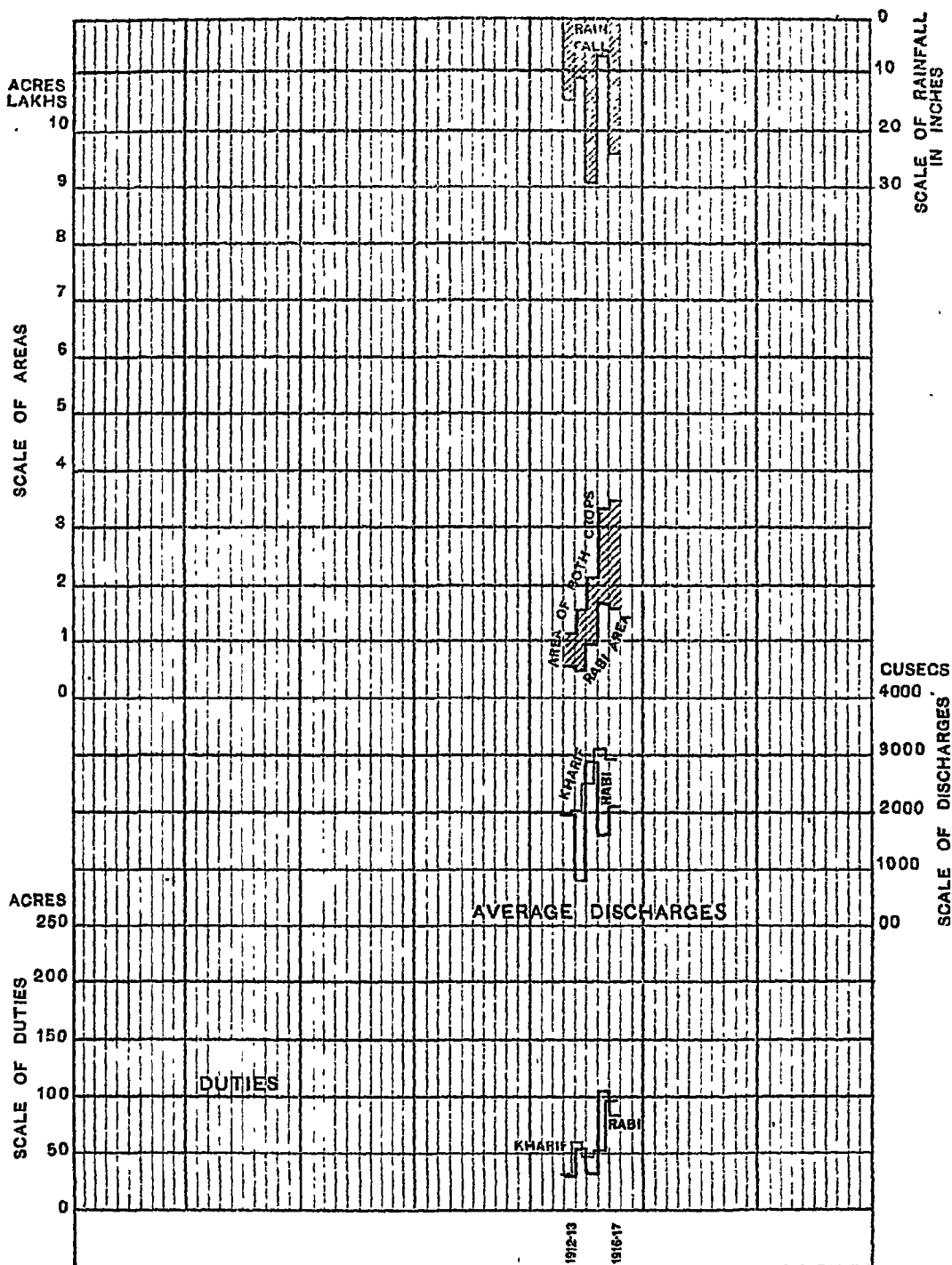
District.	1912-13.		1913-14.		1914-15.		1915-16.		1916-17.	
	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.
Sialkot	14.0	2.9	19.0	2.9	25.0	7.7	9.6	1.7	29.48	0.72
Gujranwala	11.7	2.4	15.2	2.4	20.0	5.1	4.2	0.9	24.85	1.24

The monsoon was above normal and the *kharif* crops very fair, but the winter season was again abnormally dry and the river supplies again unusually low; great difficulty was consequently experienced in maturing the *rabi* crops and 9 per cent. failed.

UPPER CHENAB CANAL.

WORKING RECORD.

1916-17.



N. B.—The intercepts in red area give the Kharif irrigation each year. The discharge are measured at Meralia the head of canal and give averages for each crop. The duties are derived from these areas and discharges.

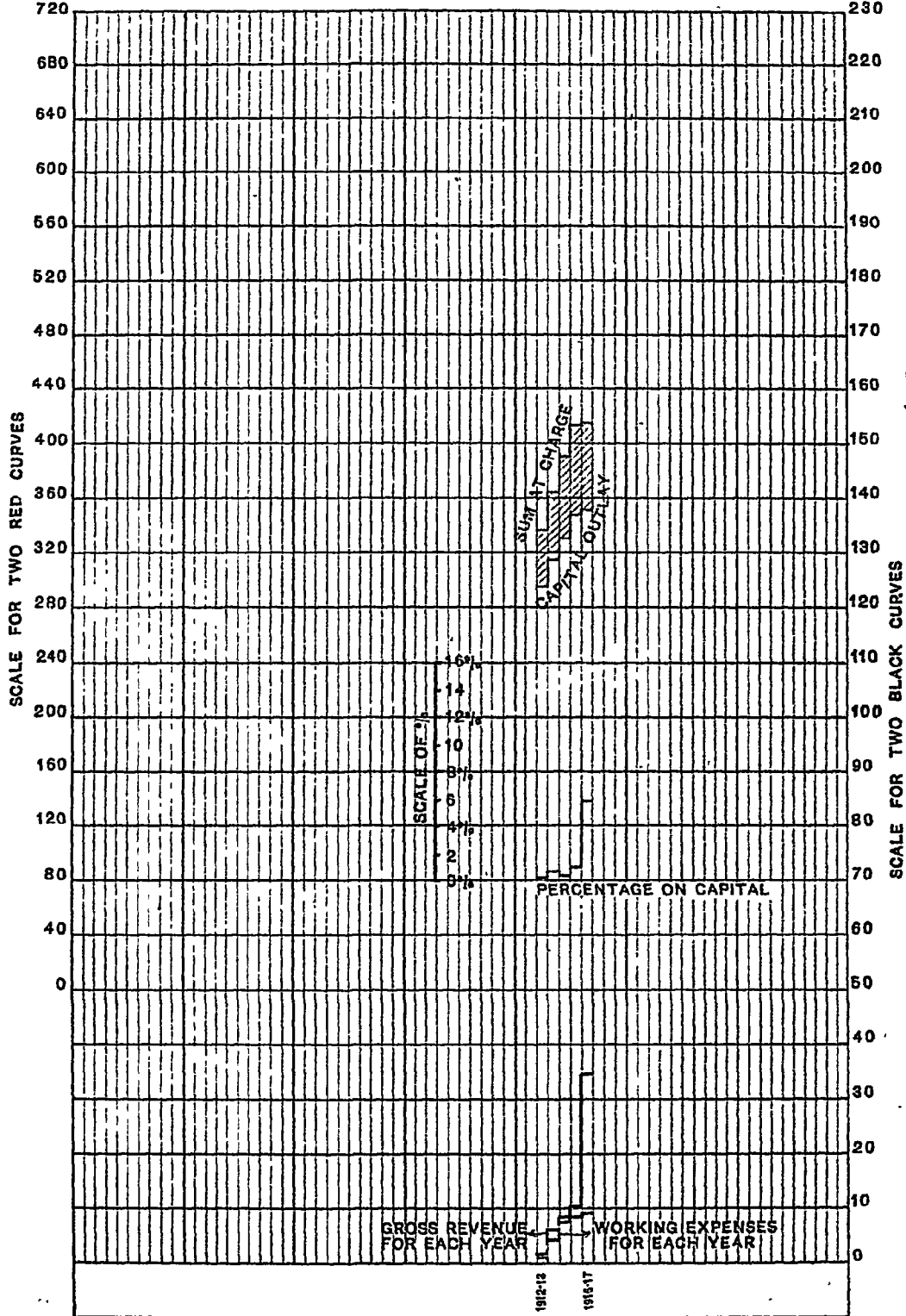
UPPER CHENAB CANAL.

FINANCIAL RECORD.

1916-17.

RS.
LAKHS

RS.
LAKHS



N. D.—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge.

The intercepts between the black curves give the net income each year.

Construction commenced in 1905 and the canal was opened in 1912.

5. The area irrigated compares with the figures for the preceding years :—

Area irrigated :
Kharif, 1916.
Rabi, 1916-17.

Years.	Kharif.	Rabi.	Total.
1912-13	62,691	53,471	116,162
1913-14	123,882	40,228	164,110
1914-15	121,189	90,693	211,882
1915-16	159,152	165,910	325,062
1916-17	285,917	151,560	437,477

The increase in the *kharif* area is remarkable but the *rabi* area, on the other hand, has dropped slightly ; this is entirely due to the failure of the winter rains and the low river supply.

6. The gross receipts, working expenses and net revenue are given below and compared with the previous three years :—

Financial results based on Collections :
Rabi, 1916-16.
Kharif, 1916.

Years.	REVENUE.			Working expenses.	Net Revenue.
	Direct.	Indirect.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
1913-14	5,53,366	5,903	5,59,269	4,03,077	1,56,192
1914-15	6,21,061	2,91,762	8,25,826	7,75,292	50,534
1915-16	9,33,256	61,077	10,17,333	8,33,808	1,83,525
1916-17	23,08,678	2,51,872	25,63,550	8,38,261	17,25,286

The total receipts anticipated in the Project forecast amounted to Rs. 28,53,145 (direct Rs. 20,99,529 and indirect Rs. 7,53,616). Actual direct receipts exceed the forecast. The indirect are short because the system of indirect credits on this canal has not been fully settled ; the question is complicated and is under consideration.

7. The Deg Nallah was active during the monsoon, but the Deg Diversion embankment was maintained intact although the flood water reached as high a level as in 1914 ; the diversion channel has scoured satisfactorily and the possibility of damage by floods thereby reduced.

LOWER CHENAB CANAL.

(SUPERINTENDING ENGINEER—Mr. F. T. BATES.)

1. The expenditure (direct and indirect) amounted to Rs. 5,58,238, bringing the total outlay to date to Rs. 3,23,55,018. The expenditure incurred was mainly on the following works :—Water-proofing the Jhang Branch Upper ; constructing a Regulator in the Jhang Branch Upper near Kot Khudayar for improving command in certain distributary channels ; raising the crest of the Khanki Weir for improving command of the silt conditions at Khanki ; and constructing main and subsidiary revetments at the head of the Palkhu Spur at Khanki for improving river approach to the Canal.

Capital account :
Kharif, 1916.
Rabi, 1916-17.

2. The expenditure amounted to Rs. 5,29,113 and was mainly incurred in the improvement of the right bank river defence works ; the construction of seepage drains for the prevention of water-logging in the Hafizabad Tahsil and in the replacing of the old type of masonry outlets by modules for the rateable distribution of water.

Maintenance and Repairs.

3. Expenditure was Rs. 8,79,613 against Rs. 9,95,947 in the previous year.

Nature of Seasons and state of Demand and Supply:
Kharif, 1916.
Rabi, 1916-17.

4. In the *kharif* owing to good general rainfall the demand throughout was moderate and canal supply adequate.

In the *rabi* the rainfall was insignificant causing low river and a keen demand for irrigation.

Rainfall.—The following is the record of rainfall during the year compared with that of the three previous years:—

Mean for				Lyallpur District.	Jhang District.	Gujranwala District.
				Inches.	Inches.	Inches.
<i>Kharif</i> , 1916	...	...	...	11.67	8.99	20.78
<i>Rabi</i> , 1916-17	...	...	...	0.77	0.63	0.93
Total				12.44	9.62	21.61
1915-16	...	...	...	2.28	2.92	5.15
1914-15	...	...	...	18.83	13.89	20.73
1913-14	...	...	...	12.34	12.40	17.87

The rainfall in *rabi* is insignificant.

5. The following table compares the irrigation with the averages of the two previous triennia:—

Crop.				AVERAGE OF THE 3 YEARS ENDING		Irrigation of 1916-17.
				1912-13.	1915-16.	
				Acres.	Acres.	Acres.
<i>Kharif</i>	...	...	...	706,322	691,635	715,270
<i>Rabi</i>	...	...	...	1,556,940	1,585,995	1,571,459
Total				2,263,262	2,280,630	2,286,729

Compared with the figures for 1915-16 the area irrigated showed an increase of 2,650 acres. The *kharif* area was more by 63,128 acres while the *rabi* figures were less by 60,478 acres. The *kharif* area was the third highest on record and the *rabi* area the fourth highest.

The total area irrigated—2,286,729 acres—consists of 395,678 acres in old villages and 1,891,051 acres in Colony villages.

6. The net revenue amounted to Rs. 1,41,10,320 (direct and indirect) equivalent to a return of 43.61 per cent. on the Capital Outlay of Rs. 3,23,55,018 incurred to the end of the year.

Financial results based on Collections:
Rabi, 1915-16.
Kharif, 1916.

In the previous year the figures of net revenue and percentage on Capital were Rs. 1,26,50,247 and 39.78, respectively.

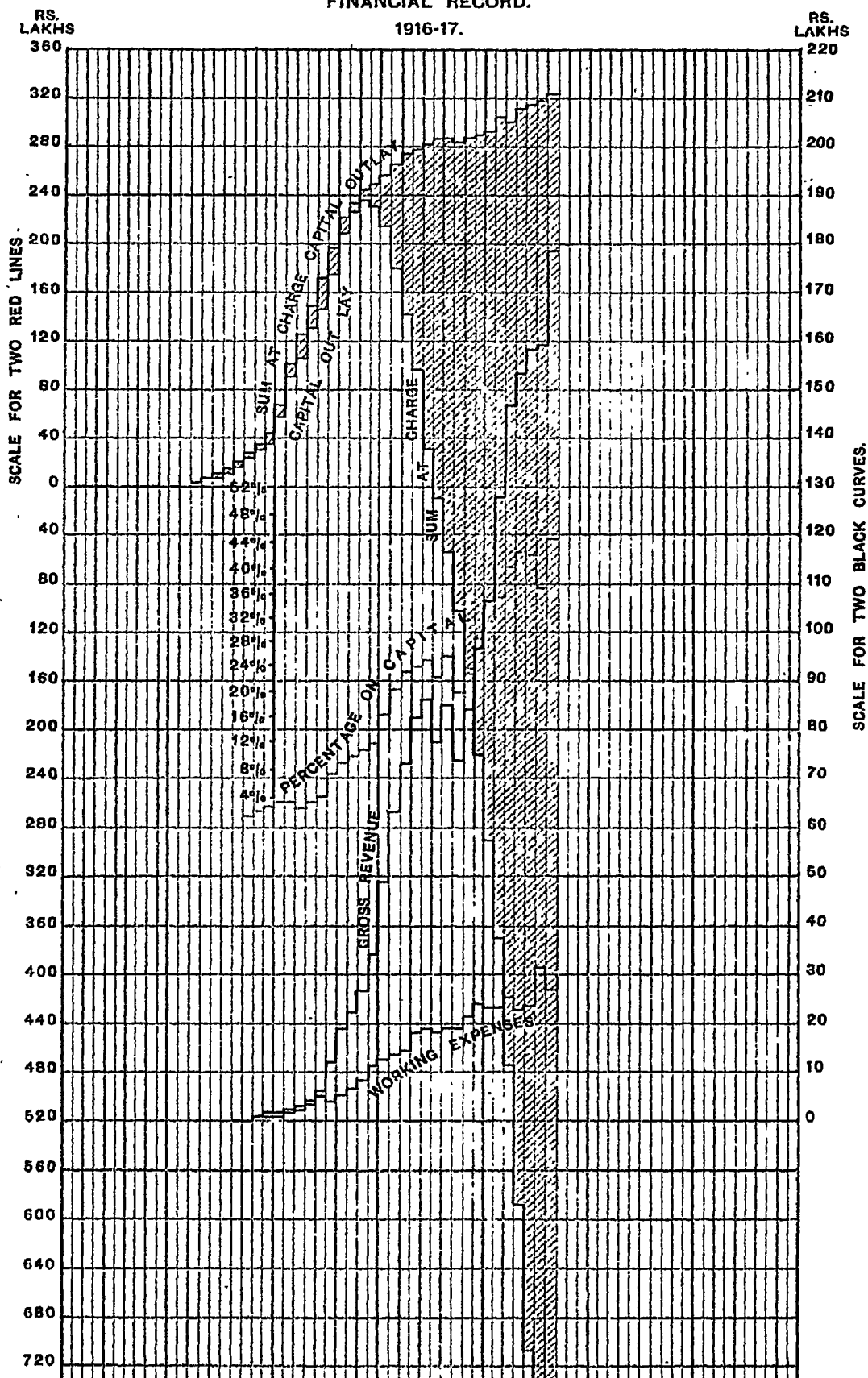
The increase in net revenue in 1916-17 was due to an increase in the area matured in *kharif* 1916 and the record area of *rabi*. 1915-16, the assessment on which was realized during 1916-17.

The accumulated net profits have increased from Rs. 11,40,60,690 to Rs. 12,71,39,012 against a capital of Rs. 3,23,55,018 invested at the close of the year.

LOWER CHENAB CANAL.

FINANCIAL RECORD.

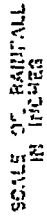
1916-17.



The discharges are measured at canal head and give averages for each crop.
 The duties are derived from these areas and discharges.
 The Rabi winter supply is comparatively high and reliable on this canal.

WORKING RECORD.

**ACRES
LAKHS**



CUBECs

SCALE OF DISCHARGES

ACRES

SCALE OF DUTIES

N. B.—The intercepts in the red area show the Kharif acreage each year.
The discharges are measured at canal head and give averages for each crop.
The duties are derived from these areas and discharges.
The Rabi winter supply is comparatively high and reliable on this canal.

7. The canal was closed for 44 days (36 days in *kharif* and only 8 days in *rabi*), so that it ran for 321 days during the year (147 days during *kharif* and 174 days during *rabi*).

General remarks.

The weather and the insufficient supply in the river gave no opportunity for a closure at canal head during the cold weather. The 10 days closures in May, July and August were ordered for the purpose, of scouring out the flume upstream of head regulator as a preventive to silting in the canal. This practice, however, involves an economic loss of water, and a loss of irrigating efficiency, besides being a somewhat ineffective procedure. It has since been realized that in order to exclude from the canal excessive charges of travelling silt, it is necessary to keep the river bed in front of the canal head automatically scoured to a low level; that this state of affairs can only be secured by the maintenance of a certain minimum afflux through the weir-slucices; and that this, again, can only be ensured by raising the crest of the weir. The crest of the weir was raised by two feet in five out of its eight bays (having previously been raised by two feet in the other three bays in the year 1911-12) during the winter of 1916-17, but it is probable that further elevation will be found necessary in the near future in order to complete the design on sound hydraulic principles.

The area remitted amounted to 3,145 acres during *kharif* and 63,110 acres during *rabi*, giving percentages of 0.41 and 4.01, respectively, on the area irrigated. Out of 63,110 acres remitted during *rabi* 31,301 were attributed to short supply of water in the river and 22,747 acres to the extensive damage done by hail to the wheat and gram crops in the Lyallpur and Jhang Districts.

The duty earned by the canal was 79 acres in *kharif* and 230 acres in *rabi* as against 73 and 230 acres in the previous year. The distribution of the waters of the Jhelum and Chenab Rivers equitably between the canals dependent thereon was in force for the first time during the *rabi* of 1916-17. The method of rotational turns adopted was, on the whole, fair, but experience has indicated modifications which will be tried next winter. This question of distributing small uncertain quantities of water over thousands of square miles of country is a difficult one and success can only be attained in the light of experience.

The problem of ensuring a rateable distribution of water in such a way as to place all irrigators on an equal footing and thus to distribute the shortage of winter supply over so large an area as to make it imperceptible in any individual holding is receiving careful consideration.

The steps taken to prevent the increase of water-logging in the Hafizabad Tahsil have been attended with much success, large areas have been reclaimed and considerable areas have been safeguarded against harm from this source.

UPPER JHELUM CANAL.

(SUPERINTENDING ENGINEER—MR. H. W. M. IVES.)

1. This year, the thirteenth since construction began, brought the project estimate to a close with a total expenditure of Rs. 4,38,49,947, debited against it at end of the year. The expenditure during the year amounted to Rs. 14,88,828. The removal of the foreshore

Capital account:
Kharif, 1916.
Rabi, 1916-17.

above the Mangla Regulator was the chief work in the winter of 1916. With an abnormally low river progress on the foreshore was considerable and it would have been completed altogether but for a rise in the river at the end of March which prevented the clearance of part of the foreshore on the right side down to the 857 level. Thus what remains to be cleared of the foreshore consists of No. 3 Tunnel on the right and its girders with a few isolated reefs in this vicinity. Towards the centre and left the clearance was very thorough and all was cleared down to 857.00 level. During the year 6½ lakhs c.ft. of rock and wet material was removed from the foreshore. The excavation done in the Mangla Cut was nearly 48 lakhs c.ft. chiefly in rock and clay stone in the head reach, and to a large extent consisting of the removal of the big slip that occurred in August 1915, which was noticed in the last year's report.

Several of the distributaries on the main line and Gujrat Branch were completed.

The training works at the tail of the canal where they are connected with those upstream of the Khanki Head Works (Lower Chenab Canal) on the right bank of the Chenab river were completed. The very necessary weir across the Bhimber Diversion Channel was sanctioned and three-fourths completed.

2. The expenditure of Rs. 44,399 was incurred chiefly on providing release gear for dropping the Canal gates at Suketar I and II and Jabba; raising crests of undersluices at Suketar I and II and Jabba; Mangla Out, part E; approach and patrol roads in the Mangla Division, protection below tail fall at R. D. 418,500 feet, main line; fixing mattress in the bed of Bhimber Diversion; and petty works in connection with improvements at Mangla.

3. Expenditure of Rs. 418,781 was incurred on the maintenance and watching of canal banks, strengthening weak reaches, maintenance of buildings, Canal drains and plantation, protection downstream of Suketar II and Jabba level crossings, and revetment of the canal in front of the Mangla Regulator.

4. The following table compares the figures of rainfall with the average of the last seven years :—
Nature of Seasons and state of Demand
and Supply.
Kharif, 1916.
Rabi, 1916-17.

Station.					1916-17.	Average.
					Inches.	Inches.
Mangla	...	...	...	...	39.05	24.30
Pauranwala	...	...	...	...	35.00	12.10
Dinga	...	...	...	...	29.12	15.18
Kirariwala	...	...	...	...	28.10	9.30
Mand	...	...	...	...	20.65	7.40

There was heavy rainfall during *kharif* but no winter rains.

This was the first year of irrigation from this canal. The canal supply reached five-eighths of its maximum discharge during the year. A large new canal with high embankments requires a cautious increase of supply. With small periodical increments the formation of berms kept pace with the increase in supply and strengthened the banks.

This year was also the first during which the waters of three rivers (Jhelum, Chenab and Ravi) were distributed amongst the connected canals (Upper Jhelum, Lower Jhelum, Upper Chenab, Lower Chenab and Lower Bari Doab Canals) by rotational turns. The rotation programme was arranged by Chief Engineer after consultation with the Superintending Engineers of the canals concerned.

Area irrigated.
Kharif, 1916.
Rabi, 1916-17.

5. The irrigation effected was :—

	AREA IRRIGATED.			AREA ASSESSED.		
	<i>Kharif</i> .	<i>Rabi</i>	Total.	<i>Kharif</i> .	<i>Rabi</i> .	Total.
Main Line	13,699	19,607	33,306	13,502	19,007	32,509
Gujrat Branch	28,714	55,585	84,299	28,510	53,172	81,682
Total	42,413	75,192	117,605	42,012	72,179	114,191

The development of irrigation has not been as rapid as was anticipated in the Project forecast. It was expected that an area of 245,000 acres would be irrigated in 1916-17, but this expectation was not realized chiefly because irrigation commenced a year later than was anticipated. The heavy rainfall during *kharif* and an abnormally low river during *rabi* which necessitated long closures on new channels due to the introduction of rotational canal turns also contributed towards the failure to reach the forecast.

6. The gross income from all sources amounted to Rs. 83,631 and the working expenses to Rs. 6,40,795, resulting in a loss of Rs. 5,57,164 or 1.27 per cent. on the capital invested. This is attributable to the fact that this was the first irrigation year on this canal and the water rates were collected for *kharif* crop only. The working expenses were also heavy and this was to be expected on the new canal which needed larger expenditure on staunching and consolidating the banks of the canals and its distributives in the early days of irrigation in order to admit of the required supply of water being run without causing any damage to banks. It should be noted, however, that the Upper Jhelum Canal is part of the triple canals and that the expenditure incurred on it is mostly on behalf of the other two units and therefore the percentage of profit based on local income, working expenses and capital expenditure is not a fair indication of the utility of the Upper Jhelum Canal.

7 (a) Most of the tramway material made available for sale or transfer, due to completion of works, was sent to Mesopotamia and a fair proportion of surplus plant was also disposed of during the year.

(b) Special arrangements made for dealing with the timber traffic down the Jhelum river enabled the raftsmen to get all their timber down, in spite of the abnormally low river, and in all some 127,000 sleepers were taken out at Chaugar and removed later by the Canal Railway.

(c) The names of the Divisions on this Canal were changed from I, III, IV and V to Mangla, Jhelum, Phalia and Gujrat Divisions, respectively.

LOWER JHELM CANAL.

(SUPERINTENDING ENGINEER—MR. W. P. SANGSTER, C.I.E.)

1. The expenditure (direct and indirect) amounted to Rs. 27,399, but the recovery of Rs. 2,140 from cultivators on account of acreage rate, and a credit of Rs. 31,706 under the suspense account (stock issues to works) and receipts of Rs. 22,147 on capital account, reduced it to a minus figure of Rs. 32,594. This brought the total outlay to the end of the year to Rs. 1,59,33,168. The expenditure was incurred chiefly on Superintending Engineer's office and quarters at Sargolha, and the remodelling of the Mithalak distributary.

2. Expenditure amounting to Rs. 72,463 was incurred chiefly on constructing a combined water-course for the Civil Station and the Government Engineering School at Rasul; remodelling two bays of the Head Regulator at Rasul; obtaining gates for the Mona Distributary; providing caissons for remodelling the Head Regulator; and raising a girder skew bridge on the North-Western Railway over the Mithalak distributary.

3. Expenditure to the extent of Rs. 2,91,635 was incurred on the annual maintenance of channels, masonry works, buildings; and on repairs to Bay No. 7 downstream floor and talus of Bay No. 2, Rasul Weir; filling up scour holes below the undersluices; stone filling at Groynes Nos. 6 and 7 upstream of the weir; levelling 30 feet of the stone berm below the weir; and repairs to Groyne No. 7 upstream of Rasul Weir.

Nature of Seasons and state of Demand
and Supply:
Kharif, 1916.
Rabi, 1916-17.

4. The rainfall during the year was as follows as compared with that of the previous three years :—

District.	Season.	YEAR.			
		1913-14.	1914-15.	1915-16.	1916-17.
Shahpur	<i>Kharif</i> ...	12.84	17.02	3.96	14.36
	<i>Rabi</i> ...	8.23	4.22	0.56	1.78
Total	...	16.07	21.24	4.52	16.14
Jhang	<i>Kharif</i> ...	13.66	12.40	1.98	9.77
	<i>Rabi</i> ...	8.09	2.33	0.36	0.85
Total	...	16.75	16.33	2.34	10.65

The rainfall was above the average during *kharif* and below the average during the *rabi*. No rain fell between first week in October and last week in March, except a small quantity near the head of the canal. On April 10th there occurred at the tail of the canal, a hailstorm of exceptional severity which affected about 20 small villages, necessitating the giving of half remissions to above 1,100 acres. During *kharif* canal water was ample and there were no insect pests or other calamities. The area sown was above the normal and the yield good. The area remitted was unusually low. During *rabi* rotational closures were started practically for the first time on this canal and the people felt them keenly.

The shortage in supply due to low river did not begin to make itself felt until late in December, and the areas sown with wheat, barley, and *toria* were well up to normal. Demand during the last three months of the *rabi* season, when the available supply was persistently low, was intensely keen. Second waterings were still being given after 15th March to some fields.

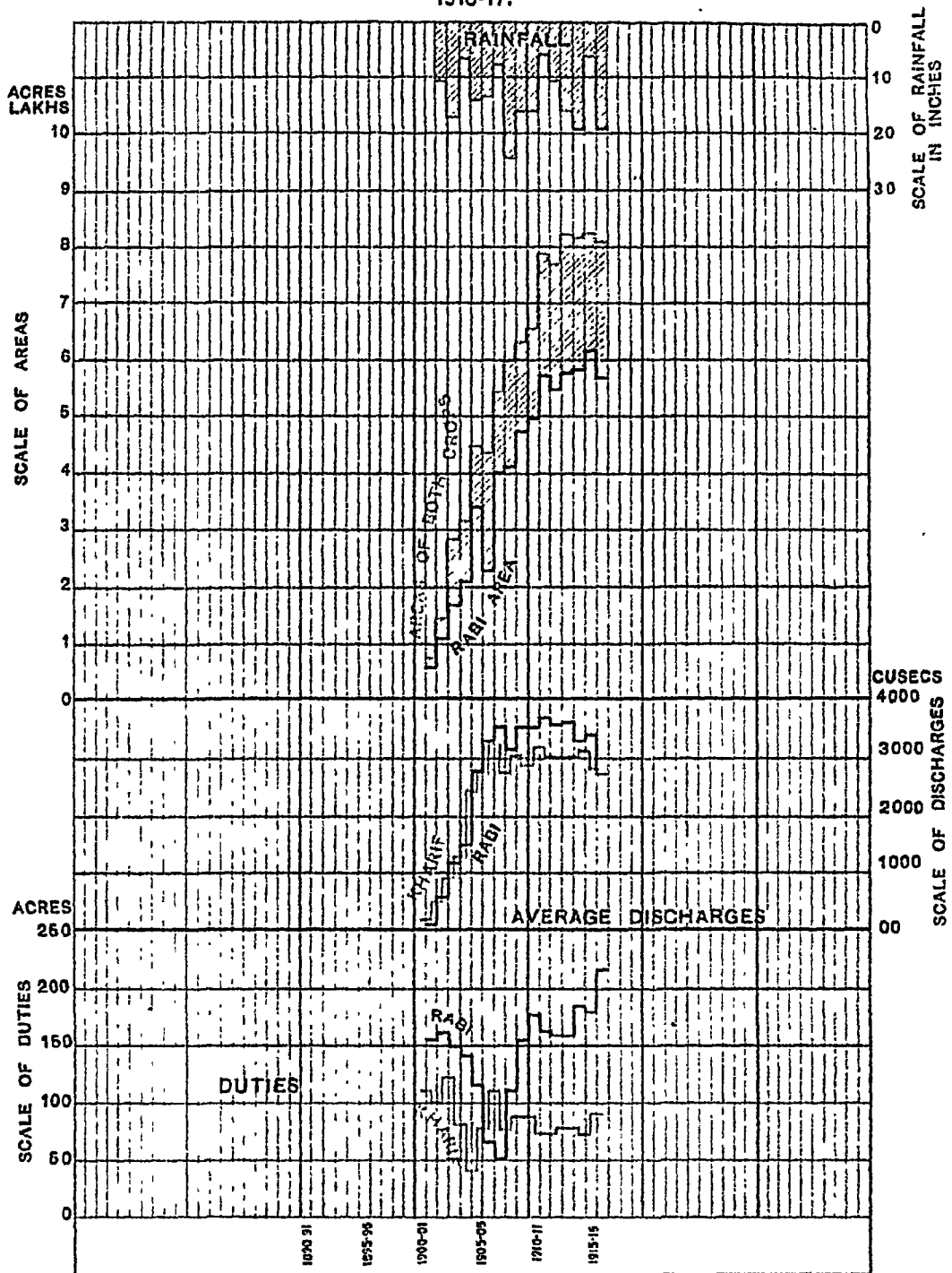
5. The canal was closed for 15 days during *kharif* owing to slackness of demand for water and special repairs to works. The area remitted was 6,371 acres including 2,106 acres remitted under Tenancy Rules. About half of this was due to short supply in *rabi* and the balance to other causes.

6. The areas irrigated and assessed compare as follows with the corresponding figures for the average of the preceding triennium :—

District.	AVERAGE OF THE 3 YEARS ENDING 1915-16.			1916-17.		
	<i>Kharif.</i>	<i>Rabi.</i>	Total.	<i>Kharif.</i>	<i>Rabi.</i>	Total.
<i>Irrigated areas.</i>						
Gujrat	4,363	8,870	13,163	4,067	7,783	11,850
Shahpur	189,814	494,934	634,748	191,563	469,871	664,134
Jhang	39,888	88,600	128,488	41,307	87,110	128,477
Total	234,065	592,334	826,399	236,937	564,764	804,701
<i>Assessed areas.</i>						
Gujrat	4,283	8,781	13,064	4,053	7,765	11,818
Shahpur	181,935	487,830	669,735	192,113	465,440	657,553
Jhang	35,947	86,186	122,143	41,217	85,666	126,913
Total	222,165	582,807	804,972	237,413	558,871	796,284

LOWER JHELUM CANAL.

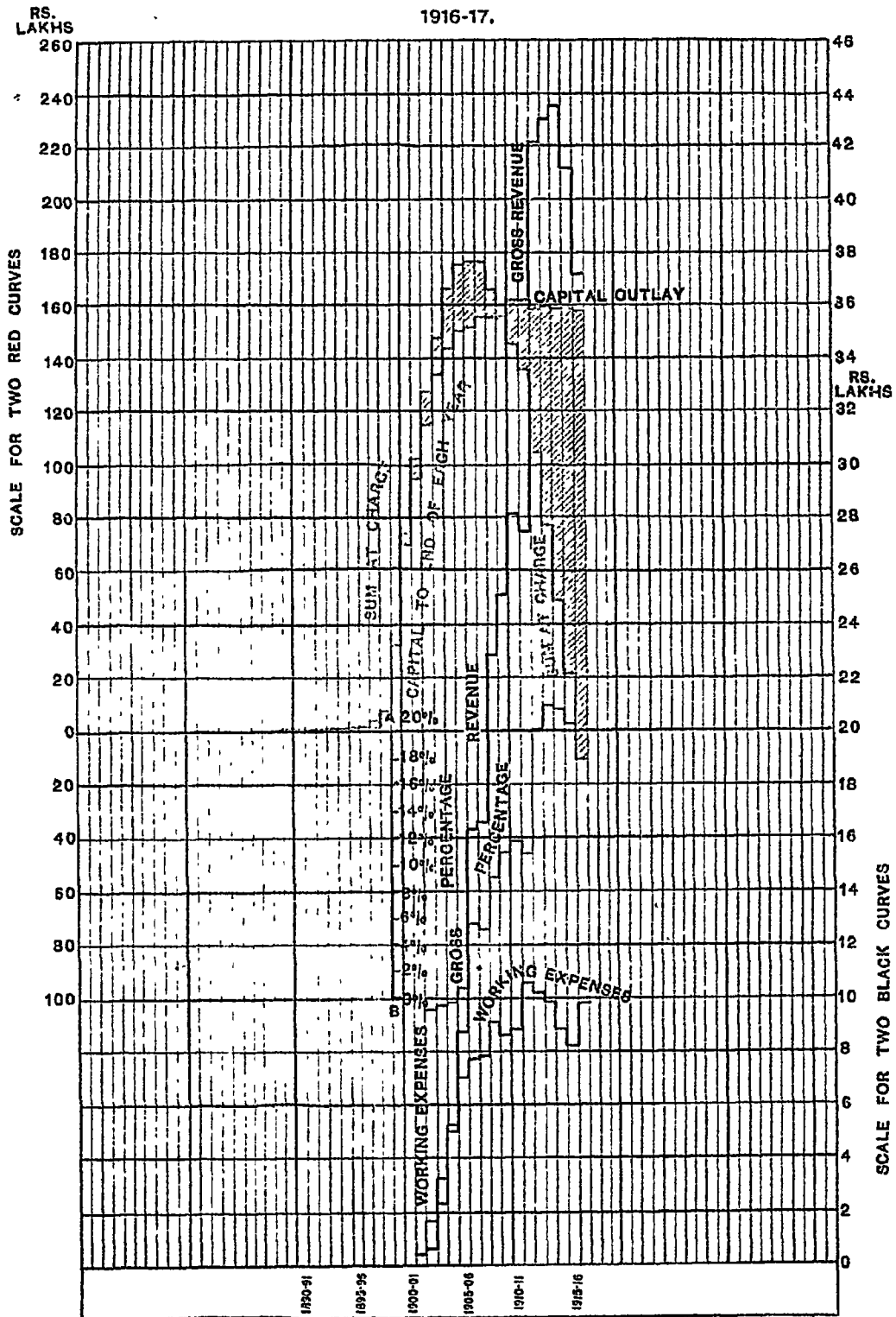
WORKING RECORD.
1916-17.



N.B.—The intercepts in red area give the Kharif irrigation each year. The discharges are measured at mile 14 of the main canal and give averages for each crop.
The duties are derived from these areas and discharges.

LOWER JHELM CANAL.

FINANCIAL RECORD.
1916-17.



N.B.—The intercepts in the red area show arrears of interest which, added to the capital, give the sum at charge.

The intercepts in the blue area give the accumulated profits.

The scheme was commenced in earnest in 1898-99 and opened in 1901. Until 1905-06 the canal did not pay any interest on its capital cost this being due to free remissions of water rates on new irrigation.

The increase in area irrigated in *kharif* was due to an ample supply of water assisted by good rainfall. The reason for the decrease in *rabi* was the unprecedented drought and abnormally low rivers which necessitated rotational working of five canal systems on a definite programme of an experimental type. Out of the total area of 804,761 acres irrigated 405,920 acres were in proprietary villages and 398,841 acres in colony villages.

7. The gross receipts (direct and indirect) amounted to Rs. 47,38,593, the working expenses to Rs. 9,83,962 and the net revenue to Rs. 37,54,631, giving a return of 23.57 per cent. on the capital outlay to the end of the year. This return was about 8 per cent. more than that of the preceding year due to—

Financial results based on collections :
Rabi, 1915-16.
Kharif, 1916.

- (a) a decrease in the capital outlay by about Rs. 33,000 as explained in paragraph 1 above.
- (b) increase in the area irrigated during *kharif* 1916 and *rabi* 1915-16, revenue on which was collected during the year.
- (c) very small area having been affected by the failure of crops and the consequent grant of very low remissions.

The figures for the year 1916-17 and the average of the preceding three years are compared below :—

Item.					Average triennium, 1913—16.	1916-17.
Direct receipts.					Rs.	Rs.
Occupiers' rates	...	...	...	...	26,74,820	29,00,746 (a)
Miscellaneous receipts	...	...	...	...	61,801	64,164 (b)
Total direct receipts	...	...	...	...	27,36,621	29,73,910
Indirect receipts	...	...	...	...	15,27,350	17,64,683 (c)
Total direct and indirect	...	...	...	...	42,63,971	47,38,593
Charges to revenue	...	...	...	...	8,94,993	9,83,962 (d)
Net revenue	...	...	...	...	33,68,978	37,54,631
Percentage on capital	...	...	...	...	21.13	23.57
Net revenue less interest	...	...	...	...	28,30,722	32,41,710
Percentage on capital	...	...	...	...	17.76	20.34

- (a) The increase is due to causes explained in paragraphs 6 and 7 above. The average rate per acre assessed works out to Rs. 3.65 against Rs. 3.32 for the previous triennium.
- (b) The increase was due to larger realizations from water power and miscellaneous other receipts.
- (c) The increase follows the increase under (a) above.
- (d) The working expenses were about one lakh more than the average of the last three years. The cause of this increased expenditure is being enquired into. The rate per acre of area assessed was 1.24 against 1.11 in the preceding triennium.

8. The agricultural and other conditions of the year have been described in paragraph 4 above. The introduction for the first time of the system of rotational closures lends a special interest to the year under review. The relative performances of the last five *rabi* seasons may be compared by the following values of Δ in the Sargodha Division :—

					Δ
<i>Rabi</i> , 1912-13	...	...	...	...	2.05
" 1913-14	...	...	...	...	1.82
" 1914-15	...	...	...	...	1.85
" 1915-16	...	...	...	...	1.96
" 1916-17	...	...	...	...	1.75

The fact that Δ for the last *rabi* is the lowest is significant, when it is remembered that there was a complete failure of the winter rains, and that the falling off in area sown was in such crops as gram, senji and maina which require less water than the staple crops. Enquiry showed that the wheat outturn was, if anything, above the normal. The *rabi* delta of 1916-17 indicates less waste of water than in previous years, but it is still high.

(b) Proposals for the remodelling of the entire canal system are being framed by the Special Project Division created for the purpose. Remodelling work was actually begun on the Mithalak distributary. The introduction of a notched fall in the canal in place of the old raised crest below the off-take of this channel appears to have had a beneficial effect upon its persistent tendency to silt. At the time of writing, the channel is drawing, gauge for gauge, the same supply as after it was silt-cleared last November, and since then no silt clearance has been found necessary.

(c) Irrigation on the Sulki Branch is steadily improving. This branch serves the Ara Assessment Circle, the land of which does not lend itself easily to canal irrigation. This is due to a very hard crust of surface soil which forms after it has been watered.

UPPER SUTLEJ DIVISION INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. F. W. K. YLDMAN.)

1. The expenditure amounted to Rs. 1,465 and was incurred mainly on constructing subordinates rest-houses at Bunga Hayat, Ladhewal and Kalewal.

Capital accounts :
Kharif 1916
Rabi 1916-17.

2. Expenditure of Rs. 13,928 was incurred chiefly on remodelling the head of Pakpattan and Faridpur distributaries ; widening the platform and raising the crest of the Hujra and Shah Yaka and Dhulliana Regulators ; widening, regrading and extending the Dhingshah distributary ; and the reduction of outlets on the Wanawala distributary.

Extension and improvement.

3. Expenditure incurred was Rs. 2,57,504 which, in addition to ordinary maintenance and silt clearance of channels, was incurred on the following works :—Excavating the Nijabat head reach of the Sohag Canal so as to make it independent of the Khizra reserve head of the Khanwah Canal and the Khizra head reach of the Lower Sohag Canal ; regrading and improving the Atari and Haveli distributaries ; and excavating the three diversion cuts in the head reach of the Katora Canal, thereby shortening its length by about 2 miles.

Maintenance and repairs.

4. The gross income amounted to Rs. 6,08,794 and working expenses to Rs. 4,41,186, showing a net revenue of Rs. 1,67,396 or 9.19 per cent. on the capital invested. The previous percentage was 18.50.

Financial results based on collections :
Rabi 1915-16.
Kharif 1916.

5. The following table compares the irrigation of this year with the averages of the two previous triennia :—

Crop.	AVERAGE OF THREE YEARS ENDING				1916-17.	
	1912-13.		1915-16.		Gross irrigated.	Area assessed.
	Gross irrigated.	Area assessed.	Gross irrigated.	Area assessed.		
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharif ...	150,404	123,092	107,045	156,378	152,560	142,355
Rabi ...	143,142	143,142	166,193	166,193	160,501	160,591
Total ...	293,546	266,234	333,238	322,571	313,151	302,947

The net area assessed exceeded by 36,713 acres, the average of the triennium ending 1912-13, and was less by 19,624 acres than the average of the three

years ending 1915-16, which included the record year of 1914-15. This is quite satisfactory, taking into consideration the fact that the river remained abnormally low throughout the month of May, thereby delaying the date of opening of the canals by more than two weeks.

6. (a) The following table shows the dates of opening and closing of the canals together with the corresponding dates of the previous year :—

Name of canal.	DATE OF OPENING.		DATE OF CLOSING.		NUMBER OF DAYS CANAL WAS IN FLOW.		REMARKS.
	1918.	1915.	1916.	1915.	1916.	1915	
Katora	Forenoon, 29-5-16.	Forenoon, 16-5-15.	Forenoon, 9-11-16.	Afternoon, 16-10-15.	164	160	
Khanwah	Forenoon, 30-5-16.	Forenoon, 11-5-15.	Afternoon, 30-10-16	Afternoon, 25-10-15.	154	109	
Upper Sohag	Forenoon, 29-5-16.	Forenoon, 9-5-15.	Afternoon, 30-10-16.	Afternoon, 14-10-15.	155	150	
Lower Sohag	Afternoon, 31-5-16.	Forenoon, 10-5-15.	Afternoon, 24-9-16	Afternoon, 11-10-15.	110	155	

(b) During this year also, as in the previous year, several important works of improvement calculated to increase the area of irrigation were introduced. The river left both the heads of the Lower Sohag Canal high and dry after a flood in the month of August. Steps were taken to excavate the Khiwa head reach which proved to be a great success, as it has increased the supply in the canal for 1917-18 by at least 50 per cent. In addition, a diversion cut was excavated at a cost of Rs. 2,500 to induce the river to adopt a course favourable for the two heads which were left stranded and this cut has also worked quite satisfactorily so far. A further improvement was the reduction of outlets on the Wanawala distributary which enable the tail reach to get its proper share of the water, which it had not done for several years. Necessary steps for giving sufficient supplies of water to the tails of several other channels also were successfully taken during the year.

SIDHNAI CANALS (INCLUDING THE KORANGA, FAZIL SHAH AND ABDUL HAKIM SUBSIDIARY CANALS).

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

1. Expenditure of Rs. 4,529 (direct and indirect) was incurred on stock transactions.

Capital account:
Kharif 1916.
Rabi 1916-17.

Settler's account.—The sum of Rs. 31-12-0 shown as received during the year 1915-16 on account of repairs to bridges on Sidhnai Canal has further increased to Rs. 236-14-6 during the year. Recoveries are being made by the Deputy Commissioner, Multan.

2. The expenditure was Rs. 11,006 against Rs. 10,516 of the previous year, and was incurred on remodelling Riazabad Minor, Lalera Minor, Chauparhatta distributary and Vinoli distributary, and constructing subordinates' rest-house at Sidhnai, Sub-Overseer's quarters at Jodhpur and other works of a petty nature.

3. The expenditure amounted to Rs. 51,873 against Rs. 43,062 of the preceding year, and was incurred on the ordinary annual repairs, silt clearance and strengthening of canal and distributaries.

Nature of seasons and state of demand and supply:
Kharif 1916.
Rabi 1916-17.

4. The total rainfall at Kabirwala was 6.95 inches (5.35 inches in *kharif* and 1.60 inches in *rabi*) against an average of 6.26 inches.

The Ravi rose very late and water did not enter the canal till the 23rd June. The supply was low until the 30th June. Throughout July irrigation was much interrupted by frequent occurrence of floods, which necessitated the closing off of the canals to exclude silt. The supply was good in September and October, and fair in November, giving the *rabi* a good start.

The very late arrival of the water is noteworthy, but it is useful to remember that it was later in 1908, and in 1898 water arrived on 21st July. In these two years the late opening cannot be attributed to the influence of the Triple Canals.

There was no water in the river after 12th December 1916, but by this date about one-eighth of the *rabi* area was estimated to have had a second watering.

5. The following table shows the irrigation effected on the whole system as compared with the averages of the two previous triennia :—

Crops.			AVERAGES OF THREE YEARS ENDING		1915-16.	1916-17.
			1912-13.	1915-16.		
			Acres.	Acres.	Acres.	Acres.
Kharif	...	...	111,674	127,386	117,909	114,933
Rabi	...	...	138,526	153,119	152,151	183,623
Total	...	...	250,100	285,505	270,160	298,556

The percentage of failed crops was 13·96 in *kharif* and 17·7 in *rabi* against 16·46 in *kharif* and 18·06 in *rabi* of the preceding year. This is not unsatisfactory in view of the late arrival of water and absence of winter rains during the *rabi* maturing period.

6. The total income from all sources amounted to Rs. 5,89,749 against Rs. 8,32,779 of the preceding year. Working expenses amounted to Rs. 1,59,012 against Rs. 1,46,592 in 1915-16. The net income amounted to Rs. 4,30,737, or 32·25 per cent. on the capital outlay, against Rs. 6,86,187, or 51·5 per cent. in the preceding year. The decrease is due to the *rabi* area of 1915-16, assessments on which were realized in the year under review being far short of that of the year 1914-15 owing to deficiency in river supply.

The uncollected balance of the assessment of occupiers' rates amounted to Rs. 3,128.

7. The total area irrigated is the second highest on record, and the year may, therefore, be said to have been a successful one.

The question of the distribution of Ravi water between the Lower Bari Doab and the Sidhnai Canals has been satisfactorily settled.

During the course of the winter monthly discharge observations of the river Chenab at Haveli and Shershab were made with the object of putting the data for the Haveli Project on a firmer footing.

The Executive Engineer has brought to notice the very wasteful system of flooding for the ensuing *rabi* crops, which is in vogue on the canal. The compartment or *khal kiari* rules are almost universally ignored. Areas of 3 or 4 acres, consisting of 4 or 5 fields, are irrigated by leading the water through one field into the other, the depth of watering being probably 6 to 8 inches. He calculates that the *rabi* area might have been $1\frac{1}{2}$ times greater than it was, or assuming that the available area was all irrigated, about two-thirds of the whole might have received a second watering instead of only one-eighth.

No new works of any magnitude are contemplated.

INDUS INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

1. The expenditure amounted to Rs. 9,045 compared with Rs. 1,51,024 during the preceding year, and was incurred on lowering the bed of the Manka Canal and on the scheme for giving a perennial supply of water for irrigation to the Dera Ghazi Khan Municipality. The former work is complete and the latter practically so.

Capital account:
Kharif 1916.
Rabi 1916-17.

2. Rupees 1,15,320 were spent compared with Rs. 1,17,195 during the preceding year. The following were the more important works in progress:—Constructing a second ring bund behind the Kotla Bund; new head reach, Fazalwah Canal; Chabri flood embankment; new head reach, Kasturi Canal; Dhan Sikhani flood embankment; a groyne across the Droman Creek; Kotla Ring Bund No. 3 and Sahiban and Chibri Ring Bunds; and an extension of the Panjtanwala groyne for increasing the supply of water to Nur Dhundi and Gamun Canals.

Extensions and improvements

3. The expenditure amounted to Rs. 1,37,316 against Rs. 1,95,703 in the previous year, and was incurred on ordinary annual maintenance and repairs, silt clearance of canals, strengthening of certain flood embankments and other miscellaneous works.

4. The average rainfall during *kharif* was 5.71 inches and during *rabi* 0.29 inches against an average of 3.77 inches and 1.66 inches respectively. The river Indus was late in rising, but remained fairly normal after the first week in June. Demand was keen. Some damage to crops resulted from severe frost during November and paucity of rainfall during the *rabi* season.

Nature of seasons and state of demand and supply:
Kharif 1916
Rabi 1916-17

The following statement shows the period during which canals were in flow:—

Name of canal.	Dates of		Number of days canal was in flow.
	Opening.	Closing.	
Massuwah	3rd June 1916 ..	10th September 1916.	99
Fazalwah	16th May 1916	29th October 1916.	166
Manka	25th March 1916	23rd October 1916.	213
Shoria	1st May 1916 ...	19th October 1916.	166
Kasturi	17th April 1916	24th September 1916.	148
Dhingana	9th April 1916 ..	10th October 1916.	171
Chibri	27th May 1916...	14th October 1916.	130
Sahiban	20th May 1916...	11th October 1916.	121
Gamun	15th May 1916...	29th September 1916.	117
Nur Dhundi.	3rd May 1916 ...	27th March 1917	328
Dhundi Kutab ...	27th April 1916	22nd October 1916	175
Kadma	14th May 1916...	1st November 1916.	171

The Manka Canal was opened early with a low supply to enable irrigation in the Civil Station of Dera Ghazi Khan to be carried out. The Nur Dhundi Canal flowed almost the whole winter with a small but valuable supply.

5. The following table compares the area assessed with the average areas of the previous two triennia :—

Area irrigated :
Kharif 1916.
Rabi 1916-17.

Name of crop.	AVERAGE OF THREE YEARS ENDING		1916-17.
	1912-13.	1915-16.	
	Acres.	Acres.	Acres.
Kharif	132,553	115,205	140,470
Rabi	80,217	63,948	67,910
Total ...	212,770	179,153	208,380

The gross and net areas irrigated during *kharif* were 179,941 and 140,470, respectively, against 138,124 and 102,147 acres of the preceding year.

During *rabi* the gross and net areas irrigated were 85,217 and 67,910 against 97,517 and 79,882, the decrease being due to earlier fall in the Indus.

6. The total income from all sources was Rs. 5,28,309 against Rs. 4,37,175 in 1915-16, and the total expenditure under all heads Rs. 3,98,604 against Rs. 4,41,584. The net profit was, therefore, Rs. 1,29,705 against a deficit of Rs. 4,409 in the preceding year, and an average profit of Rs. 43,786 in the previous triennium.

The uncollected balance of the assessment of occupier's rate was Rs. 43,271.

The percentage on the capital outlay during the year was 4.35.

7. The results of the year's operations were, on the whole, satisfactory, the gross area irrigated being the third largest on record

The river continued to give trouble at the head of the Dhundi Kutab Canal and the head regulator was engulfed. Erosion here has been very persistent for many years and so long as the westward drift continues it must cause much anxiety and expense.

Some erosion took place at the head of the Manka Canal. This canal also suffered from breaching due to hill torrents.

The principal works of importance under contemplation are :—

- Amalgamating Sohan Branch of Nur Dhundi Canal with Gamun Canal in order to improve irrigation on both.
- Constructing the Aquilpur Minor. This work has been sanctioned, but is held in abeyance for want of funds.
- Constructing new head reach for the Dhundi Kutab Canal.

Minor Irrigation Works.

SHAHPUR IMPERIAL (INUNDATION) CANALS.

(SUPERINTENDING ENGINEER—Mr. W. P. SANGSTER, C.I.E.)

Capital account :
Kharif 1916.
Rabi 1916-17.

Extensions and improvements.

Maintenance and repairs.

1. No expenditure was incurred under this head.

2. No expenditure was incurred during the year.

3. Expenditure to the extent of Rs. 18,939 as against Rs. 25,157 in the previous year was incurred on silt clearance and maintenance and repairs.

4. The rainfall was 20.08 inches against 3.53 inches in the previous year. During *kharif* the rainfall was 18.66 inches and during *rabi* 1.42 inches. Of the *kharif* rainfall there was 0.15 inches in April, 0.68 inches in May, 2.95 inches in June, 5.34 inches in July, 8.26 inches in August, and 1.28 inches in September. Of the *rabi* rainfall there was 0.92 inches in October, 0.06 inches in December 1916, and 0.44 inches in March 1917; the months of November 1916, January and February 1917 were dry.

The canals were opened during April 1916 and were closed early in September 1916. Although the supply in the river was low, yet the canals were running satisfactorily.

On the 26th April 1917 there was a hailstorm which spoiled some crops, but the loss was not as much as it was in the previous two years. A total area of 477 acres was remitted.

5. The irrigation of the year compares as follows with the averages of the two previous triennia :—

Season.					Average for the three years ending		Actual for 1916-17.
					1912-13.	1915-16.	
					Acres.	Acres.	Acres.
Kharif	...	...	...	...	14,298	15,830	19,683
Rabi	...	...	...	...	18,238	23,420	27,086
Total					32,536	38,750	46,769

(a) The area successfully matured and assessed was 43,981 acres as against 34,458 acres, the average of the previous triennium. The increase is mostly due to the favourable condition of the river and timely rainfall during the *rabi* season.

(b) Revenue was remitted on 1,788 acres of which 1,581 acres were remitted on account of bad germination, 44 acres due to high supply causing flooding of fields, and 163 acres due to insects and blight.

6. The gross revenue realized amounted to Rs. 1,15,018 and working expenses to Rs. 47,175, leaving a net revenue of Rs. 67,843, which is equivalent to a return of 31.42 per cent. on Rs. 2,15,914, the capital outlay up to date.

Details compare as follows with the average for the preceding triennium :—

Details.					Average for the three years ending 1915-16.	Actual for 1916-17.
					Rs.	Rs.
Receipts, direct	...	...	...	...	90,905	80,313
Receipts, indirect	...	...	...	...	17,776	34,672
Total					1,08,681	1,15,018
Working expenses	...	...	...	...	52,666	47,175
Net revenue	...	...	...	...	56,015	67,843
Percentage of net revenue on capital	...	...	...	...	25.94	31.42

The increase is due to timely rainfall and favourable condition of the river.

General remarks.

7. The canals began and ceased to flow, on the following dates :—

	Began to flow.	Ceased to flow.
Eastern Station Canal ...	16th April 1916 ...	20th September 1916. "
Western Station Canal ...	20th April 1916 ..	19th September 1916.
Sahiwal Canal ...	21th April 1916 ...	20th September 1916.

The return of 31.42 per cent. on the capital cost for the year under review against 22.68 per cent for the previous year, is more than satisfactory.

GHIAGGAR CANALS.

(SUPERINTENDING ENGINEER—MR. G. O. LAURIE.)

1. There was no expenditure under this head during the year. The capital outlay at the end of the year, therefore, remained the same as at end of the previous year, viz., Rs. 6,61,571,—Imperial, Rs. 3,76,129; Contribution, Rs. 2,85,442.
Capital account—
Kharif 1916
Rabi 1916-17
2. Expenditure was Rs. 2,632, i.e., Rs. 1,999 under "Imperial" and Rs. 633 under "Contribution," and was incurred on petty works of improvement.
Extensions and improvements
3. Expenditure was Rs. 6,936 under "Imperial" and Rs. 1,814 under "Contribution" as compared with Rs. 11,643 and Rs. 2,518, respectively, for the preceding year. The expenditure was normal.
Maintenance and repairs
4. (a) *Kharif* (1916).—There were light showers of rain during April, May and June, but these did not benefit sowings. The monsoon broke about the middle of July and was well distributed. There was good general rainfall in August and light showers during September. The heaviest falls recorded were 4.2 inches on 16th July at Kamrauli in Bikaner State, 4.5 inches at Otu on 6th August, and 2.4 inches at Mauju Khara on 14th September.
Nature of seasons and state of demand and supply
Kharif 1916
Rabi 1916-17

The rainfall was considerably above the average of the previous 17 years.

Water first reached Otu Weir on the 18th June which was unusually early, but the supply was poor and the lake was not filled till 22nd July. The direct minors were opened on the 30th June, but the supply of water was not sufficient for opening the main canals till 20th July. The demand then was not keen owing to local rainfall. Later the supply was fairly good for the rest of the season.

(b) *Rabi*.—Supply for ploughing and sowing was good. There was little or no rain, except light showers, in October, January and March, and that little was insufficient for maturing the crop properly. The area cropped was large, but the outturn was poor in quantity.

(c) *Rainfall*.—The average rainfall of all stations for the year 1916-17 was :—

British	...	...	...	...	17.70 inches,
Bikaner	...	...	...	...	13.90 "

against British 3.15 inches and Bikaner 2.2 inches during 1915-16.

Water was escaped down the river from 23rd to 30th July, again on 5th, 7th to 20th, 24th to 27th August and 6th-7th September. The maximum escape was on 13th August, when the downstream gauge was 8.0 feet.

The Northern and Southern Canals ran for 66 and 67 days, respectively, during *khari* and 26 days during *rabi* with average discharges of 725 and 234 cusecs, respectively.

5. The following table shows the area irrigated in British and Bikaner Territories during the last five years ending 1916-17. The area in British Territory includes area assessed by the Civil Department :—

Crop.	1912-13.			1913-14.			1914-15.			1915-16.			1916-17.		
	British.	Bikaner.	Total.	British.	Bikaner.	Total.	British.	Bikaner.	Total.	British.	Bikaner.	Total.	British.	Bikaner.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Khari	23,835	2,295	26,090	9,690	5,115	14,805	9,330	1,563	10,893	4,218	12	4,230	10,737	3,254	13,991
Rabi	17,527	4,014	21,541	3,035	1,720	4,755	15,662	6,403	22,065	17,785	3,753	21,538	11,090	8,786	19,876
Total	41,362	7,179	48,531	12,725	6,835	19,560	24,992	8,066	32,458	22,006	3,165	25,171	21,827	12,040	33,867
Total number of days canal was in flow.	Northern Ghaggar Canals...		46	73			102			50			92		
	Southern Ghaggar Canals ..		32	80			100			56			93		

The area irrigated was the highest on record. The figures for 1913-14 to 1916-17 do not include the area under *palewar* (watered but not sown and on which no water-rates are charged), whereas the figures for the previous years include *palewar*. The *palewar* area included in 1912-13 was 23,098 acres, so that the true area irrigated that year was 25,433 acres and not 48,531 acres as shown in the table.

The land under fluctuating assessment is not subject to water-rates, but the canals receive a credit for any fluctuating revenue in excess of an average of Rs. 37,000 per annum.

The amount of occupier's rate assessed was Rs. 4,330 in *khari* and Rs. 18,245 in *rabi* and the rate per acre assessed works out to 4.29 and 2.5, respectively.

6. *British*.—The operation of the year resulted in a loss of Rs. 8,630 which is equivalent to 2.29 per cent. on the capital outlay compared with a loss of Rs. 18,473 equivalent to 4.91 per cent. in the previous year. So long as the canals receive no revenue for the greater part of the irrigation which they effect, they cannot be expected to be remunerative.

7. The result of the year's working would have been very satisfactory if all land paid water-rates. Although the land-owners of the old inundation area have no longer the expense of maintaining their old channels, their former bunds and the high embankments round their fields, they nevertheless pay no water-rates and their fluctuating crop rates are credited to the Civil Department and not to the canals.

The canals form a very useful public work, but, owing to the method of crediting the revenue indicated above, they appear yearly as irrigation propositions worked at a loss at least as regards Imperial expenditure and revenue.

The canals were in flow for 93 days against 53 days in 1915-16 and 120 days in 1914-15.

The area remitted in British Territory was 813 acres in *Kharif* and 784 acres in *Rabi*. The approximate value of crops matured on the Ghaggar Canal in British Territory amounted to Rs. 8,88,547 against Rs. 5,67,751 in the previous year.

The principal crops grown are wheat and rice.

(b) *Nature and scope of contemplated new works and progress made on the preparation of new projects*—The estimate for raising the reservoir level by 3 feet so as to get a more continuous supply of water for the canals, which was originally submitted in 1912, was again submitted in a slightly revised form after more careful study of the subject. It was, however, considered best to take no further action on the subject for the present as it is possible that the northern canal area may hereafter form part of the Sirhind Canal under the Bakra Dam Project, and in that case the existing reservoir storage capacity would be sufficient for the Southern Ghaggar Canal.

(c) *Working of the Ghaggar Canals in the Bikaner State*.—The indents made by the State authorities were complied with in full whenever sufficient water was available, but the State authorities often refused to take water to the extent available. The largely improved area, however, irrigated in Bikaner State seems to show that the channels there must be getting into better condition.

The following details of irrigation have been supplied by the State :—

Canals.				1916-17.			1915-16.		
				Kharif.	Rabi.	Total.	Kharif.	Rabi.	Total.
				Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Northern Canal	...	...	...	2,403	6,979	8,382	12	1,999	2,011
Southern Canal	...	...	...	851	2,807	3,658	Nil	1,157	1,157
Total	...	...	...	3,254	8,786	12,040	12	3,156	3,168
Flow	...	...	...	3,251	8,786	12,010	12	3,156	3,168
Lift	...	...	...	Nil	Nil	Nil	Nil	Nil	Nil
Total as above	...	...	...	3,254	8,786	12,040	12	3,156	3,168

The following table shows the working of the canals as reported by the State : -

Particulars.					1915-16.	1916-17.
<i>Receipts.</i>					Rs.	Rs.
Water-rate	...	...	...	...	8,408	27,616
Miscellaneous	...	...	...	...	154	337
Total					8,562	27,953
<i>Working expenses.</i>						
Establishment	...	...	...	...	2,013	2,756
Other expenses	...	...	...	...	8,908	2,269
Total					11,821	5,025
Profit or loss (net)	...	...	...	...	- 3,259	+ 22,928

It will thus be seen that the Bikaner State got a profit of 8.03 per cent. on the working of the canals for the year under review, the contribution capital account standing at Rs. 2,85,442.

LOWER SUTLEJ CANALS DIVISION.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

Capital account:
Kharif 1916.
Rabi 1916-17.

1. These canals are classified under 43—Minor Works and Navigation for which no Capital Account is kept.

2. The expenditure amounted to Rs. 45,922 against Rs. 54,227 in the preceding year and Rs. 34,441 the average of the previous triennium. It was chiefly incurred on constructing diversions of the Muhammadwah Canal and a masonry toe wall below the Islam Escape, Mailsi Canal, and making additions and alterations to Islam inspection house, Mailsi Canal.

3. Expenditure amounted to Rs. 86,519 against Rs. 1,11,535 in the preceding year and Rs. 1,27,779 the average of the previous triennium, and was incurred on ordinary maintenance of canals, etc.

4. The total rainfall at Lodhran was 10.97 inches against an average of 4.07 inches. No rain fell during the *rabi*. The demand was keen throughout. The Sutlej was late in rising, and indigo and other early crops suffered, but canal supplies were good during the latter part of the *kharif* season and continued well into the *rabi*.

The following statement gives the dates of opening and closing of the canals during the year :—

Name of canal.	DAYS OF		Number of days canal was in flow.
	Opening.	Closing.	
Hajiwah	29th May 1916	4th November 1916	157
Mailsi	4th June 1916	20th December 1916	187
Muhammadwah	18th May 1916	22nd November 1916	162
Bahawalwah Lodhran	18th June 1916	21st October 1916	142

5. The following table compares the areas irrigated and matured with the average of the preceding triennium :—

Area irrigated
Kharif 191
Rabi 1916-17.

Season.	Canal.	AVERAGE FOR THREE YEARS ENDING 1915-16.		1916-17.	
		Irrigated.	Matured.	Irrigated.	Matured.
Kharif	Hajiwah ...	16,390	13,375	14,072	11,913
	Sutlej Series ...	125,681	107,021	185,001	115,279
	Total ...	142,071	121,299	149,073	127,192
Rabi	Hajiwah ...	25,265	23,978	30,031	24,172
	Sutlej Series ...	146,250	139,696	184,777	169,249
	Total ..	171,515	163,674	214,811	193,421
GRAND TOTAL		313,586	284,973	363,884	320,613

The total area which failed to mature was 43,271 (*viz.*, 21,831 acres during kharif and 21,390 during rabi) against 41,751 acres during the preceding year. The increase is mainly attributable to lack of rainfall during the *rabi* maturing period.

6. The total income from all sources was Rs. 6,26,728 against Rs. 6,21,610 in 1915-16, and the total expenditure Rs. 2,39,727 against Rs. 2,85,454 in the preceding year. The net revenue amounted to Rs. 3,87,001 against Rs. 3,36,156 for the year 1915-16, and an average of Rs. 3,20,796 in the previous triennium.

Financial results based on collection :
Rabi 1915-16,
Kharif 1916.

The uncollected balance of the occupier's rate amounted to Rs. 67 only.

7. The gross area irrigated and the area matured are the second highest on record. The result of the year's operations may, therefore, be said to be, on the whole, very satisfactory.

General remarks.

The amalgamation system of running channels in Lodhran Sub-Division is now complete, and remodelling with the object of improving distribution is in hand. The width of some of the larger channels is being increased to enable them to carry correct supplies.

A masonry crossing of 2,000 cusecs capacity was constructed at the expense of the Southern Punjab Railway over the Hajiwah Canal to provide an outfall for river spill partially blocked by the Sutlej Valley Railway.

As the result of river erosion the Muhammadwah Canal was penetrated in October at a point about 8 miles from its off-take from the river, necessitating the construction of a diversion.

CHENAB INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY.)

Capital account :
Kharif 1916.
Rabi 1916-17.

1. There is no capital account for these canals. They are classified under 43—Minor Works and Navigation.

2. The expenditure was Rs. 23,706 against Rs. 11,214 of the year (1915-16). This was incurred mainly on excavating new heads for the Wali Muhammad and Matithal Canals, remodelling Qutabpur Minor, and fixing iron pipe outlets in Lower Bakhtuwah with its branches.

Extensions and improvements

3. Expenditure of Rs. 78,023 against Rs. 1,05,894 of the preceding year, was incurred on ordinary silt clearance of canals, repairing breaches, and strengthening banks.

4. The rainfall during *khariif* 1916 was 3.89 inches in Tahsil Multan and 6.65 inches in Tahsil Shujabad. It did a much good to the *khariif* crops and supplemented canal irrigation. The rainfall during *rabi* was 2.53 inches in Multan and 0.20 inches in Shujabad.

The river Chenab remained abnormally low till the 1st week of June and consequently the opening of canals was late. It, however, rose rapidly after this date and gave good supplies until the end of August.

The statement below gives the dates of opening and closing:—

Name of canal.	DATES OF		Number of days canal was in flow.
	Opening.	Closing.	
Matithal	11th June 1916	25th September 1916	100
Daurana Langana	10th June 1916	24th September 1916	83
Wali Muhammad	5th June 1916	23rd September 1916	83
Sikanderabad	24th May 1916	16th October 1916	138
Gajjuhatta	3rd June 1916	13th October 1916	111
Balochanwah	12th June 1916	26th September 1916	97

The head of the Matithal Canal silted up during floods, which resulted in its partial failure. The Wali Muhammad and its main branch, the Daurana Langana, had to be run in rotation for some time owing to silting up of the head. The Sikanderabad and Gajjuhatta systems worked exceptionally well, and the Bilochanwah had a comparatively good supply.

Area irrigated :
Khariif 1916.
Rabi 1916-17.

5. The following table compares the areas irrigated with the averages of previous triennia:—

Crops.	AVERAGES OF THREE YEARS ENDING		1915-16.	1916-17.
	1912-13.	1915-16.		
	Acres.	Acres.	Acres.	Acres.
Khariif	101,141	95,030	84,107	93,537
Rabi	80,469	100,576	86,378	111,518
Total	181,610	195,606	170,485	205,075

The area which failed to mature was 17,001 acres or 18.18 per cent. of the total area irrigated during *khariif* and 7,317 acres or 6.55 per cent. of the total area irrigated during *rabi*.

6. The total income from all sources was Rs. 4,43,797 against Rs. 4,71,361 of the previous year, and the total expenditure under all heads was Rs. 1,55,764 against Rs. 1,72,292. The net income was, therefore, Rs. 2,88,033 against Rs. 2,99,072 of the preceding year and an average of Rs. 2,81,569 for the previous triennium.

Financial results based on collections:
Rabi 1915-16.
Kharif 1916.

The uncollected balance of the occupier's rate was Rs. 3,858.

7. Generally speaking, the Chenab Canals did well during the year. The crops were fair and there were no calamities.

General remarks.

Indigo was extensively sown, much of it on well irrigation, to meet a keen demand. Wheat was also sown extensively, and its yield was good in spite of scanty rainfall during the maturing period.

A high flood came down the river between 16th and 18th July and the gauge at Shershab rose to 18.8 inches on 19th July 1916. As a result of this flood the Dhundu flood embankment in the Shujabad Tahsil breached, but the damage done was not great. This bund is maintained by the District Board of Multan.

River erosion continued near Buch in the neighbourhood of the Guj-juhatta Canal, but was not so serious as in previous years.

The Lower Bakhtawah distributary was piped, and further piping of distributaries will be carried out as funds permit. It is proposed to re-contour the tract commanded by these canals. An accurate contoured map is greatly to be desired and should prove of considerable service in designing the alignments of distributary channels when the Haveli Project scheme is taken up in detail.

MUZAFFARGARH CANALS DIVISION.

(SUPERINTENDING ENGINEER—MR. A. R. MURRAY)

1. No capital account is kept for these canals. They are classified under 43—Minor Works and Navigation and Agricultural.

Capital account -
Kharif 1916.
Rabi 1916-17.

2. The expenditure amounted to Rs. 36,403 against Rs. 24,170 in the preceding year, and was incurred mainly on completing and extending piping and remodelling of channels and building new falls, stop dams and tail clusters.

Extensions and improvements

In addition to the above Rs. 10,739 against Rs. 9,859 during the preceding year, were spent from the "Agricultural fund" on extension and strengthening of embankments and completing works in progress at end of the preceding year.

3. The expenditure amounted to Rs. 1,76,475 against Rs. 1,96,207 during 1915-16 and was incurred on ordinary silt clearances of canals, repairing breaches, strengthening and raising banks, and improving supplies. Rupees 14,431 in addition was expended from the "Agricultural fund" on maintenance of inspection houses and flood embankments.

Maintenance and repairs.

4. The rainfall during *kharif* was exceptionally heavy, especially in the month of August, and consequent flooding damaged a considerable area of crops, chiefly in the Sanawan Tahsil. No rain fell during *rabi*. Both the Indus and Chenab were late in rising; the latter so much so that the canals off-taking from it could not be opened till well on towards the middle of June. Thereafter, however, it maintained a high level and the canals received good supplies, which were well maintained until September. Floods came down both rivers during August, but did no damage.

Nature of season and state of demand and supply:
Kharif 1916.
Rabi 1916-17.

The following statement gives the period during which canals were in flow :—

Name of canal.		Date of opening.	Date of closing.	Number of days canal was in flow.
Indus Series	Kot Sultan ...	12th May 1916 ...	1st December 1916 ...	201
	Magasson ...	14th May 1916 ...	16th October 1916 ...	155
	Maggi ...	1st May 1916 ...	18th October 1916 ...	168
	Ghatta ...	1st May 1916 ...	30th September 1916 ...	153
	Puran ...	26th March 1916 ...	25th November 1916 ...	233
	Suleman ...	14th May 1916 ...	10th October 1916 ...	150
Chenab Series	Karam ...	15th June 1916 ...	12th September 1916 ...	88
	Ganesh ...	11th June 1916 ...	1st October 1916 ...	111
	Taliri ...	16th June 1916 ...	2nd October 1916 ...	113

5. The following statement shows the areas irrigated as compared with the averages of the two previous triennia :—

Area irrigated;
Kharif 1916.
Rabi 1916-17.

Name of crop.	AVERAGE FOR THREE YEARS ENDING 1912-13.			AVERAGE FOR THREE YEARS ENDING 1915-16.			1916-17.		
	Matured area.	Failed area.	Percentage of kharifa.	Matured area.	Failed area.	Percentage of kharifa.	Matured area.	Failed area.	Percentage of kharifa.
Kharif ...	Acres 139,489	Acres 22,948	Acres 14.1	Acres 126,024	Acres 22,408	Acres 16.0	Acres 155,023	Acres 14,668	Acres 8.8
Rabi ...	203,055	12,549	5.8	213,648	14,279	6.8	215,049	13,720	6.0
Total ...	342,544	35,492	9.4	340,672	36,687	9.7	370,072	28,388	7.1

The percentage of failed area, although slightly above that of the preceding year, is lower by 2.6 per cent. than that of the previous triennium and less than in any other year since 1902.

6. The total revenue amounted to Rs. 7,53,898 against Rs. 6,46,213 in 1915-16, and the working expenses to Rs. 3,51,426 against Rs. 3,57,977. The net revenue amounted to Rs. 4,02,472 against Rs. 2,88,236 of the preceding year and an average of Rs. 2,94,256 for the previous triennium.

The uncollected balance of the occupier's rate amounted to Rs. 2,720.

7. The year's results were generally excellent. In spite of the late opening of the Chenab Series the areas, both matured and irrigated, for the whole Division constitute a record.

The new feeder for the Suleman Canal gave results which surpassed expectation. The supply on this channel was equal to the demand throughout the year and the area irrigated showed an increase of 22 per cent.

The Sanawan drain was successful in preventing water-logging near the tahsil building until August, but its capacity then proved unequal to coping with the heavy rain and flooding from neighbouring high lands, though subsequently it considerably hastened drying.

The compulsory closing of the Maggi and the Magasson Canals on the 16th October conduced to early drying of the low lands commanded by these channels and facilitated sowing of rabi crops.

Further attention is being given to the question of drainage, and old drains and depressions are being cleared of obstructions and put in order.

Steady progress continues to be made in remodelling and regrading channels and in the substitution of iron pipe outlets for open cuts. The improved results obtained for the year are undoubtedly due to the better distribution made possible by these means.

The necessity for increasing the escape capacity of many channels is an important question and several schemes for this purpose are being investigated.

SHAHPUR (PROVINCIAL) INUNDATION CANALS.

(SUPERINTENDING ENGINEER—MR. W. P. SANGSTER, C.I.E.)

Capital account :
Kharif 1916.
Rabi 1916-17.

1. No capital account is kept for these canals.

Extensions and improvements.

2. No expenditure was incurred under this head.

3. Expenditure to the extent of Rs. 26,168 against Rs. 19,329 in the previous year was incurred on the usual maintenance and repairs and silt clearance. The corresponding expenditure during the preceding 22 years averaged Rs. 14,228 per annum. The increase during the year is being investigated.

Nature of seasons and state of demand and supply :
Kharif 1916.
Rabi 1916-17.

4. The rainfall was 20.08 inches (*kharif* 18.06 inches and *rabi* 1.42 inches) against 3.43 inches in the preceding year.

Demand for canal water was moderate, there being sufficient rain during *kharif*. Supply in the river was satisfactory. The canals were opened and closed on the following dates :—

	<i>Date of opening.</i>	<i>Date of closing.</i>
Raniwah Canal	... 23rd April 1916	20th September 1916.
Corbynwah Canal	... 14th May 1916	6th September 1916.

The corresponding dates of opening and closing averaged over the preceding 22 years, were as follows :—

	<i>Date of opening.</i>	<i>Date of closing.</i>
Raniwah Canal	... 16th April 1916	14th September 1916.
Corbynwah Canal	... 12th April 1916	10th September 1916.

The Raniwah opened a week later and closed six days later than the average dates of the past, and the Corbynwah opened about a month later and closed four days earlier than the past average.

Area irrigated :
Kharif 1916.
Rabi 1916-17.

5. The area irrigated compares as follows with the averages of the two preceding triennia :—

Season.				AVERAGE OF THREE YEARS ENDING		Actual for 1916-17.
				1912-13.	1915-16.	
				Acres.	Acres.	Acres.
Kharif	...	...	...	17,034	14,920	6,855
Rabi	...	...	...	8,349	11,788	24,510
Total	...	...	...	25,683	26,768	31,404

The figures for the *kharif* and *rabi* crops are not comparable with the averages of the two previous triennia on account of transfer of *kharif* irrigation of grass to *rabi*. The compliance of orders issued previously on the subject is being insisted upon.

The increase in irrigation over the preceding two triennia is due to the satisfactory state of the river supply and timely rainfall.

Revenue was remitted on 1,659 acres, of which 1,213 acres were remitted under Tenancy Rules. 320 acres due to bad germination, and 26 acres due to high supply causing the flooding of fields

6. The revenue receipts and expenditure of the year compare as follows with the figures of the previous triennium :—
 Financial result based on collections :
 Rabi, 1915-16.
 Kharif, 1916

Details.	Average triennium ending 1915-16.	Actual for 1916-17.
	Rs.	Rs.
Total assessments, direct and indirect ...	51,679	71,047
Receipts, direct and indirect	51,689	45,405
Working expenses	39,216	47,609
Net revenue ...	12,473	— 2,141

There was a loss of Rs. 2,141 on the year's working which is due to higher working expenses and considerable area irrigated free of water-rates under Tenancy Rules. This area amounts to 1,213 acres.

SIMLA :

The 8th October 1917.

W. F. HOLMS,

Chief Engineer, Irrigation Works, Punjab.

GOVERNMENT OF THE PUNJAB.
PUBLIC WORKS DEPARTMENT.

IRRIGATION BRANCH.

Part II.

STATISTICAL STATEMENTS FOR THE YEAR 1916-17.

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STATEMENT OF CANALS

PARTICULARS.	MAJOR IRRIGATION						
	Western Jumna Canal including Sirsa Branch, British and Patana.	SIRSAH CANAL.		Upper Bari Canal.	Lower Bari Canal.	Upper Chenab Canal.	Lower Chenab Canal.
		British.	Patana, Sirsa and Jind States.				
1	2	3	4	5	6	7	8
Source of supply	Jumna.	Futlej.		Ravi.	Ravi and Chenab.	Chenab.	Chenab.
Minimum discharge of river. { Ever recorded, cubic feet per second	2,167	2,780		1,272	220	8,884	8,884
{ During the year " "	2,264	3,458		1,740	240	6,048	4,682
{ As designed " "	6,178	3,840	2,160	5,000	6,750	11,742	8,318
Maximum discharge of canal. { Now authorized " "	6,430	5,461	3,080	6,700	...	11,874	10,720
{ During the year " "	6,131	8,280		6,699	4,650	8,895	10,206
Average annual rainfall Inches	(a) 33.48	(b) 16.40	(b) 18.13	(a) 24.16	(b) 35.11	(c) 17.87	(c) 13.11
Gross area commanded Acres	2,785,268	2,668,132	1,964,660	1,782,660	1,557,180	1,063,330	3,387,626
Culturable area commanded "	2,316,077	2,273,467	1,629,000	1,594,346	1,204,818	1,523,101	2,582,508
Area proposed to be irrigated annually. { By complete project	598,555	763,442	420,000	821,655	823,994	688,875	1,726,766
{ At present	598,555	760,000	420,000	821,655	784,606	592,783	1,726,766
Sanctioned Estimate—							
Direct charges Rs.	1,05,54,269	2,29,13,099	1,44,67,175	1,57,23,565	2,16,69,940	3,01,31,523	2,56,44,175
Indirect charges "	7,52,277	12,78,126	...	...	6,58,462	12,25,441	8,31,791
Interest during construction "	34,27,795	87,03,621	...	...	34,29,947	71,03,608	66,50,277
Total Estimate	1,47,32,341	3,29,90,746	1,44,67,175	1,57,23,565	2,57,58,349	4,44,60,592	3,31,66,243
Expenditure to end of 1916-17. { Direct charges	1,80,44,014	2,43,81,060	1,43,17,259	2,11,00,383	2,14,20,273	3,23,61,637	3,15,78,980
{ Indirect charges	8,10,219	12,11,153	...	7,37,020	4,58,890	9,80,547	7,76,008
{ Interest during construction	32,08,964	85,45,401	...	1,64,97,038	39,00,619	83,68,216	64,52,313
Total Expenditure	2,20,63,197	3,41,38,214	1,43,17,259	3,85,34,390	2,57,74,912	4,36,51,400	3,88,07,331
Works as now sanctioned—							
Main Canals, irrigation Miles	82	39		30	134	171	40
Branch Canals "	248	279	219	295			
Branch Feeder Canals ... .. "	...	...	...	16			
Lower Chautang Nala Canal "	4	...	...	...	...	...	...
Distributaries, irrigation "	1,837	1,500	1,821	1,561	1,050	1,178	2,249
Lower Chautang Nala Canal Distributaries "	45	...	...	...	...	...	...
Of above—							
Navigable Channels "	121	92	46	...	...	...	...
Works completed to end of 1916-17—							
Main Canals, irrigation "	82	39		30	134	171	40
Branch Canals "	243	270	219	295			
Branch Feeder Canals ... .. "	...	...	...	16			
Lower Chautang Nala Canal "	4	...	...	...	...	...	...
Distributaries, irrigation "	1,837	1,500	1,821	1,561	1,046	1,107	2,249
Lower Chautang Nala Canal Distributaries "	45	...	...	...	...	...	...
Of above—							
Navigable Channels "	121	92	46	...	...	...	...

NOTE—Miles shown in this statement

*Salampur and

†Includes 4 miles

(a) Average rainfall for the last 38 years.
 (b) Ditto ditto 33 do.
 (c) Ditto ditto 27 do.
 (d) Ditto ditto 15 do.
 (e) Ditto ditto 10 do.

A. IN THE PUNJAB.

WORKS.

MINOR IRRIGATION WORKS.

Upper Jhelum Canal.	Lower Jhelum Canal.	Upper Sutlej Canals.	Sidhni Canals.	Indus Inundation Canals.	Shahpur (Imperial) Inundation Canals.	GHAGGAR INUNDATION CANALS.		Lower Sutlej Inundation Canals.	Chenab Inundation Canals.	Muzaffargarh Inundation Canals.	Shahpur (Provincial) Inundation Canals.
9	10	11	12	13	14	15	16	17	18	19	20
Jhelum	Jhelum.	Sutlej.	Kavi.	Indus.	Jhelum.	Ghaggar.		Sutlej.	Chenab.	Indus Chenab.	Jhelum.
4,514	2,795	3,001	The river runs dry.	9,499	2,795	The river runs dry		2,580	1,650	9,489 1,650	2,795
4,514	...	3,630		22,636	...			2,530	1,650	22,656 1,650	...
8,500	8,500	4,985		Not known	1,100	1,000	500	5,555	5,103	7,584	939
...	{ K 8,750 R 3,760 }	...	2,605	...	1,100	1,100	600	...	...	...	992
5,090	4,250	7,651	2,623	8,719	817	726	234	6,281	4,185	11,015	785
81-52	(d) 11 00	(f) 10-07	(g) 6 61	(A) 5 57	(g) 14 52	(i) 9 85	(j) 12 62	(A) 5 41	(A) 6 05	(a) 5 2	(g) 10-77
598,106	1,868,399	960,780	889,977	879,108	67,067	80,924	44,904	918,209	458,478	771,811	60,928
569,209	1,162,465	899,898	811,159	422,923	62,664	72,876	31,618	906,152	800,318	674,932	59,255
341,960	668,921	349,697	150,000	806,760	47,760	46,834	17,309	250,000	209,600	850,000	27,000
327,095	664,921	329,194	150,000	805,760	42,000	46,834	17,309	250,000	209,000	850,000	24,170
4,32,40,232	1,88,06,782	13,36,878	9,62,383	6,87,906	2,05,913	8,59,592	3,07,365	...	...	...	...
10,56,277	5,69,206	45,400	37,092	19,729	9,091	10,028	...	...	...	...	...
73,20,713	32,95,554	...	39,086	...	...	...	...	...	...	...	...
5,19,17,306	2,22,62,712	13,92,778	10,39,561	7,07,615	2,15,914	3,69,730	8,07,856	...	...	...	...
4,30,11,594	1,55,13,447	17,18,805	12,95,265	29,01,976	2,05,939	8,65,837	2,55,412	...	...	...	...
8,88,008	3,89,721	1,01,641	49,226	80,376	9,081	10,792	...	...	...	...	...
85,23,413	33,93,714	8,87,090	2,12,511	6,86,207	...	...	...	...	...	...	...
5,23,72,390	2,12,96,892	27,06,936	15,18,001	30,68,558	2,15,914	8,70,129	2,96,442	...	...	...	...
155	39	820	68	443	59	44	55	400	207	417	33
87	203	...	...	...	13	...	...	...	...	...	18
...
...
307	897	895	252	301	72	31	...	807	63	740	52
...
...
489	39	820	68	443	59	44	55	400	207	417	33
87	156	...	...	...	13	...	...	...	...	...	18
...
...
308	897	895	252	304	72	31	...	807	63	740	52
...
...

are canal miles of 5,000 feet.

Faridnagar Channels.

for Bhimber diversion—

(f) Average rainfall for the last 24 years.

(g) Ditto ditto 28 do.

(h) Ditto ditto 50 do.

(i) Ditto ditto 18 do.

(j) Ditto ditto 14 do.

(k) Ditto ditto 7 do.

I B

		DIRECT CHARGES (NET EXPENDITURE).					Indirect charges exclusive of interest.	Total charges including interest.	Simple interest.
		Works.	Establishment.	Tools and Plants.	Surveys.	Total.			
1		2	3	4	5	6	7	8	9
49—CAPITAL EXPENDITURE ON IRRIGATION WORKS NOT CHARGED TO REVENUE.									
WESTERN JUMPA CANAL INCLUDING SINGA BRANCH.									
To end of previous year	...	Rs. 1,31,35,552	Rs. 83,24,123	Rs. 9,17,908	Rs. 2,19,728	Rs. 1,68,89,347	Rs. 8,10,188	Rs. 1,78,02,836	Rs. 2,29,01,800
During the year	...	907	320	16	47	1,180	81	1,210	5,60,581
Contribution	{ To end of previous year During the year	9,00,168	2,36,843	33,708	...	11,60,478	...	11,60,478	...
SERING CANAL—IMPERIAL.									
To end of previous year	...	Rs. 1,74,25,910	Rs. 49,27,015	Rs. 21,06,284	Rs. 1,88,072	Rs. 2,45,45,111	Rs. 12,11,447	Rs. 2,56,56,528	Rs. 3,37,40,038
During the year	...	21,651	2,102	—98	17,715	38,649	—204	38,445	8,93,114
Contribution	{ To end of previous year During the year	97,31,120	35,89,410	12,01,468	...	1,43,02,006	...	1,43,02,006	...
	{ Pathala	12,088	701	—10	...	12,777	66	12,843	...
	{ Nadda	1,272	76	—1	...	1,345	9	1,354	...
	{ Jund	1,008	64	—1	...	1,162	8	1,170	...
UPPER BARI DOAB CANAL.									
To end of previous year	...	Rs. 1,61,08,161	Rs. 34,00,284	Rs. 9,14,827	Rs. 6,12,160	Rs. 2,11,36,492	Rs. 7,42,005	Rs. 2,18,78,497	Rs. 2,45,70,022
During the year	...	1,61,133	—35,786	822	—1,65,922	—30,164	—4,686	—35,139	6,70,049
Contribution	{ To end of previous year During the year	1,54,61,774	27,90,133	18,18,988	9,82,469	2,08,65,064	4,16,028	2,16,81,092	32,08,957
	{ Pathala	1,16,123	2,76,070	4,21,779	—80,453	7,63,509	38,683	7,92,271	6,93,678
UPPER CHENAB CANAL.									
To end of previous year	...	Rs. 1,08,94,378	Rs. 42,23,634	Rs. 18,84,094	Rs. 9,11,407	Rs. 2,80,54,023	Rs. 9,37,090	Rs. 2,89,91,113	Rs. 3,68,88,888
During the year	...	1,04,549	2,12,709	8,02,464	—1,20,085	7,97,114	1,03,457	8,40,571	71,82,649
Contribution	{ To end of previous year During the year	1,01,97,272	47,31,882	6,33,200	4,75,905	3,10,23,600	7,03,281	3,17,94,720	2,26,71,651
	{ Pathala	4,30,078	87,264	6,216	23,498	4,46,021	18,817	4,65,238	10,21,928
LOWER CHENAB CANAL.									
To end of previous year	...	Rs. 1,10,18,654	Rs. 31,88,878	Rs. 8,63,687	Rs. 4,13,455	Rs. 1,65,78,841	Rs. 3,40,121	Rs. 1,69,18,962	Rs. 2,38,37,923
During the year	...	—2,070	4,282	209	—58,708	—59,184	800	—32,783	6,12,921
Contribution	{ To end of previous year During the year	1,07,75,614	2,85,097	34,880	22,063	17,17,351	1,01,927	18,19,351	21,66,821
	{ Pathala	681	99	7	784	1,451	14	1,465	60,626
SIDEWALL INUNDATION CANALS.									
To end of previous year	...	Rs. 9,45,838	Rs. 2,02,090	Rs. 39,029	Rs. 43,067	Rs. 12,00,744	Rs. 40,217	Rs. 12,80,041	Rs. 15,86,335
During the year	...	...	87	...	6,654	6,631	8	4,329	42,633
INDUS INUNDATION CANALS.									
To end of previous year	...	Rs. 23,45,100	Rs. 4,23,964	Rs. 35,033	Rs. 64,463	Rs. 21,83,360	Rs. 70,948	Rs. 22,54,308	Rs. 28,40,659
During the year	...	12,372	845	29	—4,200	6,618	429	6,045	85,610
Total Imperial	{ To end of previous year During the year	16,30,34,330	3,02,39,818	1,19,99,426	49,78,163	21,07,41,711	62,08,773	21,69,51,484	14,40,61,251
	{ Pathala	19,75,806	9,03,591	10,46,830	4,70,238	34,88,750	2,08,979	37,04,709	70,03,847
Total Contribution	{ To end of previous year During the year	1,06,31,258	85,06,981	12,35,234	...	1,54,63,453	...	1,54,63,453	...
	{ Pathala	14,457	850	—12	...	16,294	103	15,387	...
50—MINOR WORKS AND NAVIGATION.									
SHAMPUK CANAL.									
To end of previous year	...	Rs. 1,75,000	Rs. 30,300	Rs. 613	...	Rs. 3,06,933	Rs. 9,081	Rs. 2,15,914	...
During the year	...	...	...	...	...	...	...	...	...
GHAGGAR CANAL.									
To end of previous year	...	Rs. 3,94,617	Rs. 69,797	Rs. 7,993	...	Rs. 3,65,337	Rs. 10,792	Rs. 5,70,129	...
During the year	...	...	...	...	...	...	...	...	...
Contribution	{ To end of previous year During the year	3,38,624	64,264	2,554	...	3,65,443	...	3,65,443	...
	{ Pathala	...	...	...	...	...	...	...	...
Total Imperial	{ To end of previous year During the year	4,69,677	129,067	8,556	...	5,27,370	20,773	5,82,043	...
	{ Pathala	...	...	...	...	...	...	...	...
Total contribution	{ To end of previous year During the year	3,88,624	64,264	2,554	...	3,85,443	...	3,85,443	...
	{ Pathala	...	...	...	...	...	...	...	...
JAMSHETA CANAL.									
To end of previous year	...	Rs. 29,679	Rs. 19,821	Rs. 2,004	...	Rs. 51,004	Rs. 2,705	Rs. 59,709	...
During the year	...	...	...	...	...	...	...	...	...

I C.

**STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION WORKS IN
THE PUNJAB PROVINCE FOR THE YEAR ENDING 31st MARCH 1917.**

STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION.

REALIZATIONS UNDER THE MAIN HEAD OF

IRRIGATION.	REVENUE ACTUAL RECEIPTS.										
	IRRIGATION.				Navigation.	Plantation.	Water power.	Miscellaneous.	Total.	Refund of revenue.	Gross receipts less refunds.
	Water-rate directly yield.	Share of land revenue, cesses, and other lands.	Owner's rate.	Total.							
1	2	3	4	5	6	7	8	9	10	11	12
PRODUCTIVE WORKS.											
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Western Jumna Canal, including Sirsa Branch.	Imperial .. 27,70,417	2,08,310	...	29,57,727	73,684	22,850	3,320	65,982	31,62,894	1,184	31,61,710
	Contribution .. 2,31,041	...	...	2,31,041	...	335	273	3,169	(a) 2,25,738	1,054	2,23,784
Sirhind Canal	Imperial .. 39,63,003	1,42,791	...	40,96,794	9,793	31,314	1,03,006	1,22,627	43,64,330	654	43,63,676
	Contribution .. 24,74,016	...	...	24,74,016	5,316	20,821	44,780	35,340	25,80,911	8,001	(b) 25,72,910
Upper Bari Doab Canal	...	42,07,110	6,08,876	48,75,986	...	28,933	1,10,457	1,67,007	52,12,201	3,437	52,08,764
Lower Bari Doab Canal	...	7,31,730	2,02,024	9,37,654	...	3,073	...	24,433	9,65,130	237	9,64,893
Upper Chenab Canal	...	22,63,045	2,51,672	25,14,717	...	421	...	23,478	25,63,610	260	25,63,350
Lower Chenab Canal	...	66,63,035	60,08,027	1,26,71,062	...	16,079	14,480	67,912	1,68,70,144	341	1,68,30,103
Upper Jhelum Canal	...	74,793	...	74,793	...	2	...	8,811	63,980	8	63,972
Lower Jhelum Canal	...	20,10,110	17,44,683	46,74,802	...	4,216	22,077	20,071	47,38,956	373	47,38,583
Upper Sutlej Inundation Canals	...	3,78,080	2,15,068	5,93,148	...	5,078	...	9,880	6,08,028	210	6,07,818
Sidhwal Canals	...	4,54,101	1,31,344	5,85,445	...	237	...	4,358	5,86,123	374	5,85,749
Indus Inundation Canals	...	1,92,613	2,73,500	4,66,113	...	2,327	...	50,830	5,28,300	...	5,28,300
TOTAL	Imperial .. 5,66,33,130	1,19,31,291	...	5,85,64,421	83,381	1,15,492	2,74,150	6,01,459	5,98,38,835	7,024	5,98,31,811
	Contribution .. 20,06,558	...	...	20,06,558	5,316	21,150	43,633	38,639	23,06,649	10,535	23,00,014
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.											
Lower Sutlej Inundation Canal, including Rajpals	...	5,16,834	3,05,700	8,22,534	...	2,493	...	2,053	6,20,914	180	6,20,734
Muzaffargarh Inundation Canals	...	3,32,655	4,10,010	7,42,665	...	12,117	...	2,650	7,57,442	40	7,57,402
Chenab Inundation Canals	...	1,63,728	2,46,703	4,10,431	...	1,003	...	1,019	4,44,042	215	4,43,827
TOTAL	...	8,33,614	9,62,413	18,02,123	...	16,615	...	6,360	18,74,003	430	18,73,573
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.											
Shahpur Canal	...	80,316	54,672	1,14,988	...	25	...	0	1,15,013	...	1,15,013
Ghaggar Canal	Imperial .. 21,847	...	...	21,847	...	...	...	3	21,850	...	21,850
	Contribution ..	...	...	...	...	...	...	...	...	...	...
TOTAL	Imperial .. 1,02,162	54,672	...	1,30,631	...	25	...	0	1,30,656	...	1,30,656
	Contribution ..	...	...	...	...	...	...	...	...	...	...
Provisional.											
Shahpur Canal	...	31,692	12,073	44,805	...	...	...	601	45,466	...	45,466
Indus Inundation Canals	...	...	3,222	3,222	...	...	...	...	3,222	...	3,222
TOTAL	...	31,692	15,295	49,087	...	...	...	601	48,687	...	48,687

(a) Includes Rs. 1,336 credited to Patiala State through (b) and (c) Includes Rs. 21,031 and Rs. 10,637, respectively, (d) Includes Rs. 72,629 passed through the Administrative (e) " " 3,22,145, Rs. 77,335 and Rs. 31,443 spent (f) " " 2,735 spent by the Bikaner State, (g) " " 3 " " " " " "

C.

WORKS IN THE PUNJAB PROVINCE FOR THE YEAR ENDING 31st MARCH 1917.

REVENUE AND WORKING EXPENSES.

MAINTENANCE OF WORKS.																			
ESTABLISHMENT REVENUE.					ESTABLISHMENT.														
Direction.	Executive.	Navigation.	Civil Officers.	Total.	Direction.	Executive.	Medical.	Total.	Works.	Repairs.	Sundries.	Tools and plants.	Plantation.	Total cost of maintenance.	Total direct charges.	Indirect charges.	Grand Total Working expenses.	Net Income.	
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
38,107	3,23,895	228	75,781	4,38,095	18,203	62,064	11,017	1,21,014	1,11,162	8,06,766	6,327	14,189	10,702	8,31,380	12,77,405	76,010	19,56,021	17,05,720	
59	259	...	...	345	8,839	33,631	...	39,160	18,339	(c) 4,434	185	574	1,372	1,03,202	1,03,037	...	1,03,637	1,20,147
36,220	3,29,431	147	1,27,594	4,93,458	12,222	62,163	9,726	81,113	1,31,623	8,65,168	140	16,058	20,637	8,11,167	12,04,015	82,635	13,67,160	20,70,620	
3,014	10,509	...	...	11,263	21,467	87,921	2,032	1,14,000	1,21,078	6,77,828	1,335	0,850	5,604	9,29,781	9,43,063	...	9,43,063	16,20,247
61,229	1,53,416	...	1,10,945	2,64,020	12,664	77,166	5,403	85,453	1,00,756	4,35,632	...	27,277	33,53	6,03,171	13,17,791	1,01,335	14,19,126	37,69,738	
15,014	1,39,229	...	24,106	1,77,370	14,620	20,515	...	11,085	9,901	3,30,163	...	5,303	23,54	1,17,075	5,06,374	31,002	7,26,356	3,39,537	
21,235	1,80,554	...	60,537	2,62,326	9,115	21,198	...	33,313	23,877	1,55,505	4,700	5,519	11,605	5,31,319	7,90,075	11,850	8,38,264	17,25,299	
40,162	6,11,427	...	2,64,722	9,46,351	16,971	1,23,070	23,518	1,42,371	1,26,162	8,29,007	2,003	46,189	60,592	16,10,320	25,04,677	1,65,100	27,16,763	1,41,03,310	
1,818	55,711	...	1,567	58,420	20,405	69,079	...	90,464	47,717	3,95,067	...	6,749	21,338	5,60,254	6,10,810	20,085	6,40,705	-5,57,161	
45,159	3,02,274	...	81,891	4,32,307	11,142	44,811	12,767	58,710	72,462	2,61,739	...	45,700	9,804	4,61,513	9,13,820	70,142	8,83,962	37,51,031	
5,377	78,521	...	10,228	91,160	7,421	44,207	1,506	53,471	13,825	2,48,129	...	1,078	0,479	3,20,512	4,50,731	20,087	1,41,398	1,67,306	
3,700	59,316	...	5,416	67,651	1,071	6,700	1,712	11,613	10,505	40,142	...	8,600	5,132	80,302	1,47,013	11,009	1,59,012	4,30,737	
4,038	43,581	...	6,700	59,310	6,008	55,051	1,475	65,301	1,16,320	1,21,407	23	1,615	16,030	3,11,600	3,78,010	10,085	3,98,095	1,29,745	
2,71,215	20,10,407	320	7,71,330	30,53,061	1,70,825	6,32,413	67,460	8,30,744	11,01,814	42,61,764	14,617	1,76,712	2,10,161	60,89,769	1,03,37,540	8,32,731	1,00,70,471	2,80,61,411	
2,703	10,925	...	...	13,029	29,325	1,21,662	2,032	1,51,529	1,40,013	7,21,360	1,410	10,263	0,437	10,33,072	10,46,700	...	10,46,700	17,50,304
0,909	4,549	...	0,089	61,036	5,250	22,593	1,353	20,235	46,022	81,389	-522	1,458	5,131	1,02,639	2,10,086	13,001	2,30,727	3,87,001	
0,327	56,160	...	9,061	73,000	11,780	35,337	...	47,117	36,403	1,00,765	-1,408	1,025	0,710	2,60,181	3,34,471	10,975	3,51,426	4,02,172	
5,145	26,254	...	5,440	25,815	8,311	15,710	...	21,027	23,798	71,730	...	497	6,351	1,23,353	1,49,188	6,560	1,55,764	2,63,017	
20,671	1,10,001	...	23,009	1,63,671	21,371	73,075	1,363	87,429	1,00,001	3,10,692	-8,021	3,878	21,105	5,47,464	7,10,335	30,652	7,46,017	10,77,508	
4,206	11,000	...	2,247	17,652	2,027	5,101	...	7,316	...	18,017	...	...	322	20,155	47,707	3,458	47,175	67,613
2,101	8,090	...	602	10,793	1,000	0,635	...	8,234	1,600	0,787	...	-31	40	17,035	27,918	2,083	30,480	-8,030	
...	...	...	...	...	155	(f) 8,105	...	3,350	633	(g) 4,000	...	(h) 37	20	8,130	8,130	...	8,130	-8,130
0,397	10,059	...	2,610	23,335	3,721	11,720	...	16,440	1,000	23,401	...	-31	371	43,190	71,626	0,130	77,635	50,213	
...	...	...	...	...	155	3,105	...	3,350	633	4,000	...	37	20	8,130	8,130	...	8,130	-8,130
2,037	4,719	...	1,118	7,891	3,313	7,601	...	10,914	...	26,168	...	...	...	37,052	41,076	2,033	47,600	-2,114
2,700	...	...	...	2,100	...	...	...	...	...	...	...	...	...	...	2,100	502	2,401	619
4,107	4,710	...	1,118	10,003	3,313	7,601	...	10,914	...	26,108	...	...	...	37,052	47,065	2,023	50,013	-1,320

the Administrative Accounts of the Province.
 actually spent by the Patiala State on maintenance of State Channels.
 Accounts of the Province.
 by the Native States of Patiala, Nabha and Jind, respectively.

STATEMENT SHOWING THE FINANCIAL RESULTS OF IRRIGATION

GENERAL FINANCIAL RESULTS TO END OF 1916-17.											
Number of works.	Name of works.	Mileage in operation.		Estimated cost of construction (direct and indirect).	Date of completion of work (P. W. Code II, 1918).	Date when system first came into operation.	Total capital outlay (direct and indirect).	Accumulated arrears of interest.	Accumulated surplus revenue.	Total sum-at-charge (column 7 + column 9).	
		Main Canals and Branches.	Distributaries.								
1	2	3	4	5	6a	6b	7	8	9	10	
		Miles.	Miles.	Rs.	Date.	Date.	Rs.	Rs.	Rs.	Rs.	
MAJOR WORKS.											
PRODUCTIVE WORKS.											
1	Western Jumna Canal, including Sirsa Branch.	Imperial	(a)	(b)	Western Jumna Canal—1880	1820	1,76,93,755	...	5,28,63,602	1,76,93,755	
		Contribution.	294	1,741							1,74,79,840
2	Sirhind Canal.	Imperial	318	1,590	1886-87	1883-84	2,55,92,813	...	1,79,09,042	2,55,92,813	
		Contribution.	219	1,821	1,43,18,870	...	...	1,43,17,289	...	1,43,17,289
3	Upper Bari Doab Canal.		341	1,561	1878-79	1860-61	2,18,37,358	...	4,56,29,685	2,18,37,358	
4	Lower Bari Doab Canal.		134	1,046	31st March 1917	1913-14	2,18,74,263	35,30,554	...	2,54,10,817	
5	Upper Chenab Canal.		171	1,107	31st March 1917	1912-13	3,58,42,184	61,99,593	...	4,16,41,777	
6	Lower Chenab Canal.		427	2,249	1899-1900	*	3,23,55,018	...	12,71,39,012	3,23,55,018	
7	Upper Jhelum Canal.		125	396	31st March 1917	1915-16	4,38,49,947	90,80,007	...	5,28,30,554	
8	Lower Jhelum Canal.		185	697	31st March 1917	1901	1,59,33,168	...	1,71,18,331	1,59,33,168	
9	Upper Sutlej Inundation Canals.		826	395	17,97,019	Upper Sutlej—1858-59 Lower Sohan—1892-50	1855	18,19,840	...	31,40,189	18,19,846
					1884						
10	Sidhmal Canals.		68	252	12,67,939	1886	*13,35,490	...	63,21,634	13,35,490	
11	Indus Inundation Canals.		443	304	29,14,290	1849-50	Prior to—1849	*29,82,351	7,06,680	...	86,69,031
	Total {	Imperial ...	2,842	11,928	22,57,51,838	22,06,16,103	1,95,23,434	27,01,21,618	24,01,39,627
		Contribution	254	1,972	1,54,79,848	1,51,77,767	1,54,77,767
MINOR WORKS.											
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.											
12	Shahpur Canal		60	72	2,15,914	1870-71	1870	2,15,914	...	11,30,301	2,15,914
13	Ghaggar...	Imperial	44	84	3,70,129	1098-99	1807	3,70,129	10,75,558	...	14,51,687
		Contribution.	53	...	2,85,442	2,85,442	2,85,442
	Total {	Imperial ...	110	106	5,92,043	5,92,043	10,75,558	11,30,301	16,67,601
		Contribution	53	...	2,85,442	2,85,442	2,85,442
WORKS FOR WHICH REVENUE ACCOUNTS ARE KEPT.											
14	Lower Sutlej Inundation Canals.		400	807	...	1895	Were in operation prior to annexation of the Punjab by the British.	75,14,240	...
15	Muzaffargarh Inundation Canals.		417	740	...	1896		79,27,309	...
16	Chenab Inundation Canals.		267	68	...	1895		60,02,447	...
	Total		1,084	1,110	2,28,43,993	...
Provincial.											
17	Shahpur Canal		56	52	2,54,880	...
18	Ravi Canal	
	Total		56	52	2,54,880	...

*Opened as an Inundation Canal in 1887
(a) Includes 4 miles and (b) 45 miles of

C.

WORKS FOR, AND UP TO THE END OF, 1916-17.

FINANCIAL RESULTS OF THE YEAR 1916-17.									
Gross receipts (direct and indirect),	Working expenses (direct and indirect),	Net revenue,	Percentage on Capital outlay, column 1.	Percentage on annual charge, column 10.	Interest at 3-2,964 per cent. on direct Capital outlay to end of previous year, plus half the outlay of the year.	Net profit.	Net loss.	Area irrigated.	Percentage of working expenses to receipts (column 11 to column 12).
11	12	13	14	15	16	17	18	19	20
Rs.	Rs.	Rs.	%	%	Rs.	Rs.	Rs.	Acres.	%
81,61,750	13,50,021	17,95,729	10.15	10.15	5,56,529	12,39,200	...	748,588	43.02
1,330	62,410	-61,074	5.20	5.26	...	...	81,074	79,869	4671.040
43,03,676	13,87,150	29,76,526	11.63	11.63	8,03,114	21,78,412	...	8,01,781	81.78
72,523	4,83,183	-4,09,607	2.80	2.80	...	...	4,09,007	5,83,959	684.77
52,05,564	14,19,125	37,89,788	17.35	17.35	6,96,049	30,93,689	...	12,01,297	27.24
9,64,893	6,26,356	3,38,537	1.55	1.33	6,93,682	...	3,55,145	5,14,936	84.91
25,63,530	5,39,264	17,25,266	4.63	4.15	11,20,548	6,04,788	...	4,87,477	32.63
1,68,30,103	27,19,783	1,41,10,320	43.61	43.81	10,31,063	1,30,78,352	...	22,86,729	15.16
83,631	0,10,795	5,57,164	1.27	1.05	13,94,260	...	19,51,424	1,17,605	766.21
47,38,593	9,83,962	37,54,631	23.55	23.50	5,12,921	32,41,710	...	8,04,701	20.76
6,08,994	4,41,503	1,67,396	9.19	9.10	56,634	1,10,702	...	8,19,151	72.50
5,59,749	1,50,012	4,30,737	32.25	32.25	42,623	3,89,114	...	2,08,556	20.96
5,28,300	3,93,604	1,29,705	4.95	3.51	65,519	34,186	...	2,65,158	75.44
3,90,31,912	1,09,70,471	2,86,01,441	12.59	11.93	70,03,847	2,39,84,163	23,06,569	78,80,089	27.88
73,962	5,41,543	-4,70,681	3.04	3.04	...	2,16,57,594	4,70,081	6,18,828	737.24
1,15,018	47,175	67,843	31.42	31.42	6,788	61,055	...	46,769	41.01
21,550	80,480	-8,630	2.29	...	12,043	...	20,678	23,327	139.49
...	3,105	-3,105	1.09	1.09	...	...	3,105	12,040	...
1,36,808	77,635	59,213	10.00	3.55	18,891	61,055	20,073	75,096	56.73
...	8,105	-3,105	1.09	1.09	...	40,352	3,105	12,040	...
6,20,728	2,89,727	3,37,601	...	...	...	3,37,001	...	3,63,884	35.25
7,53,695	3,51,426	4,02,472	...	...	...	4,02,472	...	3,98,458	46.61
4,43,797	1,55,704	2,88,033	...	...	...	2,88,033	...	2,05,075	55.09
18,24,423	7,46,917	10,77,506	...	...	...	10,77,506	...	9,67,417	40.93
45,465	47,009	2,144	...	...	...	...	2,144	31,401	104.71
3,222	2,401	818	...	...	...	818	...	...	74.61
48,687	50,018	-1,320	...	...	...	818	2,144	31,404	103.73

and as a Perennial Canal in 1892,
the Lower Chautang Nala Canal.

III C.

STATEMENT SHOWING DEMANDS AND REALIZATIONS IN THE PUNJAB PROVINCE
FOR THE YEAR 1916-17.

Name of Canal.	Balance of demands remaining unrealized at the commencement of the year.	Demands during the year.	Total.	Deducted remissions not including cash refunds.	Net amount.	Actual realizations.	Amount unrealized at the close of the year.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
XXIX—MAJOR WORKS—							
DIRECT RECEIPTS.							
<i>Water or occupier's rate.</i>							
Western Jumna Canal ...	1,489	29,32,402	29,33,891	41,077	27,69,224	27,79,447	9,777
Sirhind Canal ...	1,35,496	39,74,458	41,09,954	1,32,891	39,77,063	39,53,065	23,008
Upper Bari Doab Canal ...	14,966	43,05,357	43,20,323	97,292	42,23,031	42,07,119	15,912
Lower Bari Doab Canal ...	4,516	11,70,077	11,74,593	7,37,000	7,30,591	7,31,730	1,864
Upper Chenab Canal ...	5,973	25,23,417	25,29,390	2,05,303	23,24,087	22,85,045	39,042
Lower Chenab Canal ..	—1,593	67,31,433	67,29,840	63,319	66,66,521	66,63,038	3,435
Upper Jhelum Canal ..	...	1,48,290	1,48,290	71,697	76,599	74,793	1,806
Lower Jhelum Canal ...	5,737	29,12,064	29,17,801	2,421	29,15,377	29,10,119	5,258
Sidhnai Canal ...	3,178	4,51,119	4,57,293	...	4,57,292	4,54,104	3,128
Upper Sutlej Inundation Canals ...	5,069	4,01,760	4,09,822	21,891	3,81,938	3,78,009	6,869
Indus Inundation Canals ...	53,720	2,88,906	2,92,626	19	2,92,607	(a) 2,49,337	43,270
Total occupier's rates ...	2,28,556	2,70,85,289	2,82,23,845	13,80,512	2,68,43,333	2,66,89,821	1,53,509
<i>Owner's rate.</i>							
Lower Chenab Canal ...	...	20,512	20,512	...	20,512	6,839	11,213
XXX—MINOR WORKS AND NAVIGATION.							
Lower Sutlej Inundation Canals ...	177	2,91,100	2,91,277	...	2,91,277	2,91,210	67
Muzaffargarh Inundation Canals ..	167	3,25,220	3,25,407	33	3,25,371	3,22,655	2,719
Chenab Inundation Canals ...	3,205	1,91,378	1,97,583	...	1,97,598	1,93,725	3,858
Hajiwah Canal ...	...	22,421	22,424	...	22,421	22,421	...
Shahpur Inundation Canals ...	—10	81,520	81,510	4,214	80,305	80,815	—10
Ghaggar Inundation Canals ...	..	21,576	21,578	2,698	21,880	21,847	88
Total ...	3,559	9,45,229	9,48,788	6,915	9,41,813	9,35,176	6,667
PROVINCIAL.							
Shahpur Canal ...	43	31,845	31,888	...	31,888	31,892	—4
Ravi Canal ...	...	...	...	...	...	...	...
Total ...	43	31,845	31,888	...	31,888	31,892	—4

(a) Includes Rs. 56,694 on account of Dhundi Estate.

IV C.

STATEMENT SHOWING THE FINANCIAL RESULTS OF THE IRRIGATION WORKS IN THE PUNJAB PROVINCE FOR THE YEAR 1916-17 BASED ON ASSESSMENTS OF THE YEAR 1916-17 AND FINANCIAL RESULTS OF THE OPERATIONS FOR THE YEAR ENDING 31st MARCH 1917.

IRRIGATION WORKS.	Capital outlay direct and indirect to end of the year 1916-17.	REVENUE ASSESSED DURING THE YEAR.										Working expenses direct and indirect.	Net assessed revenue of the year.	Percentage on capital outlay to end of the year.
		DIRECT ASSESSED RECEIPTS.								Indirect charges.	Grand total.			
		Occupier's rate.	Owner's rate.	Plantation.	Water power.	Navigation.	Miscellaneous.	Total.						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
PRODUCTIVE WORKS.														
Western Jumna Canal (Imperial ... Including Sirsa Contribution	1,70,83,765 11,60,478	37,41,608 2,78,275	...	22,830 335	3,320 273	73,583 ...	65,802 3,189	20,00,735 2,82,072	2,03,310 ...	31,15,015 2,82,072	13,56,021 1,62,637	17,69,021 1,78,435	0.94 16.89	
Sirhind Canal {Imperial ... Contribution	2,56,92,618 1,43,17,250	35,51,363 23,17,600	...	31,311 20,821	1,03,008 41,780	6,795 5,316	1,22,533 33,310	35,01,832 21,23,859	1,42,701 ...	30,41,723 21,23,859	13,87,150 1,43,063	25,57,573 14,60,823	0.90 10.34	
Upper Bari Doab Canal ...	2,10,37,369	41,21,050	...	23,835	1,10,457	...	1,87,907	41,00,358	6,08,873	81,20,231	14,10,120	37,10,105	18.99	
Lower " " "	2,16,74,063	10,77,410	...	3,073	...	...	21,493	11,01,895	2,02,024	13,07,919	6,70,558	6,81,463	3.11
Upper Chenab Canal ...	3,63,42,181	22,67,410	...	421	...	...	23,478	23,11,812	5,51,987	28,63,799	8,88,284	20,59,036	6.82
Lower " " "	8,23,55,818	63,62,146	— 6,912	16,970	14,420	...	67,612	94,71,615	74,18,663	1,68,83,178	27,10,783	1,31,73,395	40.71	
Upper Jhelum Canal ...	4,36,49,917	3,01,100	...	2	...	...	6,811	3,69,043	...	3,60,843	6,40,705	— 2,70,852	— 0.63
Lower " " "	1,59,33,108	27,31,670	...	4,210	32,077	...	20,071	27,05,634	17,61,683	45,00,517	0,83,902	45,70,555	22.11	
Upper Sutlej Inundation Canals ...	18,10,518	4,61,149	...	6,078	...	...	9,950	4,10,110	2,23,450	6,42,598	4,41,309	2,01,109	11.06
Siddhal Inundation Canal ...	13,36,400	4,00,823	...	257	...	...	4,358	5,01,468	1,31,311	6,32,812	1,60,012	4,73,800	23.17
Indus Inundation Canals ...	20,69,361	2,27,705	...	2,327	...	...	60,830	2,80,931	2,73,500	5,63,431	9,48,604	1,04,827	1.63
TOTAL {Imperial ... Contribution	23,06,16,183 1,51,77,767	2,63,63,537 25,95,803	— 6,912 ...	1,16,492 21,106	2,74,160 45,053	83,381 6,340	1,01,490 39,638	2,71,36,137 27,05,669	1,16,10,403 ...	3,00,65,504 27,05,669	1,09,70,471 10,46,700	2,80,65,123 16,59,258	12.73 10.72	
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.														
Shahpur Canals ...	2,16,011	1,09,490	...	25	...	...	6	1,00,517	42,082	1,51,599	47,175	1,04,421	48.38
Ghaggay Canals {Imperial ... Contribution	3,70,120 2,85,412	22,675 27,616	...	...	...	...	3 1,337	22,678 27,063	...	22,678 27,063	30,480 8,130	— 7,002 10,823	— 2.10 0.7
TOTAL {Imperial ... Contribution	5,02,617 2,85,412	1,32,001 27,616	...	25 ...	...	...	9 337	1,22,075 27,063	42,082 ...	1,74,177 27,063	77,655 8,130	90,522 10,823	10.30 0.71
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.														
Lower Sutlej Inundation Canals ...	...	3,61,272	...	2,405	...	...	2,048	3,56,852	3,05,700	6,61,652	2,50,727	4,21,625	...
Chenab Inundation Canals ...	...	2,14,431	...	1,003	...	...	1,610	2,17,013	2,40,793	4,64,738	1,55,781	3,08,957	...
Muzaffargarh Inundation Canals ...	...	3,22,057	...	12,117	...	...	2,650	3,37,630	4,10,010	7,54,240	3,81,426	4,02,823	...
Total ...	...	8,98,050	...	10,516	...	...	6,306	9,11,425	9,00,114	18,60,539	7,48,017	11,33,622	...
PROVINCIAL WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.														
Shahpur Canals ...	...	40,600	...	...	...	...	600	60,109	20,938	71,047	47,600	23,438	...
Hari Inundation Canals... ..	...	...	...	...	...	...	...	...	3,222	3,222	2,401	818	...
Total ...	...	40,600	...	...	...	...	600	60,109	24,160	74,260	50,013	24,250	...

*Includes Rs. 5,025 spent by the Bikaner State.
†Figures reported by the Bikaner State.

I. D.

STATEMENT OF TRAFFIC ON CANALS IN THE PUNJAB DURING THE YEAR 1916-17.

Particulars.	Western Jumna Canal.	Sirhind Canal.
Length of channel open for navigation ... Miles	121	138
Receipts—		
Tollage on private boats ... Rs.	...	2,622
„ „ Government boats ... „	...	70
„ „ rafts ... „	73,586	12,449
Carrying operations or transport service—		
Hire of Government boats ... „	...	...
Refund of revenue ... „	...	...
Total receipts ... „	73,586	15,141
Maintenance charges, including special Navigation Establishment „	5,357	3,627
Net Revenue of year ... „	68,229	11,514
Total number of boats plying cargo ...	...	...
„ „ „ „ passengers ...	...	...
Total registered tonnage cargo ...	...	...
„ „ „ „ passengers ...	...	...
Ton mileage, Up (a) ...	...	...
Down ...	...	...
Total ...	...	...
Estimated value of cargoes, Up (a) ... Rs.	...	...
„ „ „ Down ... „	...	...
Total ... „	...	...
Number of passengers ...	...	18,409
Rafts, Up ... C. ft	...	...
„ Down ... „	3,305,050	1,284,072
Total ... „	3,305,050	1,284,072
Estimated value of rafts ... Rs.	88,80,944	9,24,557
Tollage on boats per ton per mile (a) ...	...	...
„ „ rafts per 100 c. ft. ...	2-28	0-97

(a) Details of boat traffic are not recorded (Government of India, Public Works Department, No. 78-I, dated 22nd April 1892).

DESCRIPTION AND QUANTITIES OF RAFT TRAFFIC ON CANALS IN THE PUNJAB DURING THE YEAR 1916-17.

18

STATEMENT OF AREAS IRRIGATED BY IRRIGATION WORKS IN THE PUNJAB DURING THE YEAR 1910-17.

SCHEDULE OF CANALS.			AREA IRRIGATED, IN ACRES.										AVERAGE DISCHARGE, IN CUSECS.				AREA IRRIGATED, PER CUSEC.			
NAMES OF CANALS.	SCHEDULE OF CANALS.		Kharif.		Rabi.		Total.		Flow.	Lift.	DOUBLE CROPPED.		AT HEAD less TOLENS ESCAPED.		AT DISTRIBUTARY HEADS.		AT HEAD less TOLENS ESCAPED.		AT DISTRIBUTARY HEADS.	
	Irrigated.	Assessed.	Irrigated.	Assessed.	Irrigated.	Assessed.	Irrigated.	Assessed.			Per cent. of area irrigated.	Per cent. of area irrigated.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.	Kharif.	Rabi.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Major Irrigation Works.																				
Western Jumna Canal (including Sindh Branch, Lodi and P. S. S.)	101	178	317,913	343,675	1,07,544	178,075	423,157	317,523	817,258	11,129	63,029	759	2,993	2,165	2,605	120	160	161	184	
Sindh Canal (Lodi and P. S. S.)	125	154	333,799	3,07,774	7,41,011	550,553	6,91,784	884,924	3,357	200,469	2,917	3,615	3,051	2,755	2,603	92	183	191	210	
" " (P. S. S. and Sindh Canal)	125	154	311,114	2,04,125	3,23,775	2,11,975	1,39,979	3,23,650	531,040	2,913	128,951	2,378	2,151	1,813	1,623	83	178	97	189	
Upper Bari Doab Canal.	119	142	5,99,209	5,71,111	3,31,294	6,17,453	3,301,167	1,17,221	1,151,254	19,633	244,640	20,333	1,952	2,219	1,728	117	255	148	366	
Lower Bari Doab Canal.	171	152	2,18,433	1,20,125	5,04,409	1,27,116	61,407	37,284	618,567	1,429	12,509	274	3,122	1,770	1,423	79	149	103	187	
Upper Chenab Canal.	161	162	2,53,917	270,479	1,31,769	157,214	4,647	47,403	431,734	2,433	16,311	373	2,913	2,114	1,678	97	72	117	90	
Lower Chenab Canal.	117	173	717,270	712,115	1,271,179	1,24,439	1,24,439	2,22,374	2,183,519	33,931	163,973	717	9,053	9,529	7,617	5,535	79	230	84	284
Upper Jhelum Canal.	169	142	42,413	27,012	75,392	72,417	117,515	114,189	117,515	...	3,194	271	492	500	475	72	110	115	159	
Lower Jhelum Canal.	168	142	29,617	27,113	56,731	53,871	64,769	70,134	708,819	2,712	16,313	263	2,763	2,018	2,330	89	216	106	243	
Upper Sutlej Canal.	147	147	125,579	142,353	1,04,791	1,04,791	31,161	30,297	310,146	3,665	31,105	100	2,668	6,437	117	147	147	147	147	
Sindh Canal.	63	145	114,239	98,595	1,59,439	1,59,439	2,53,439	2,53,439	2,13,107	6,257	631	623	1,895	1,895	1,895	214	314	314	314	
Indus Irrigation Canal.	112	25	170,011	140,170	87,217	77,910	2,34,125	2,34,125	2,32,771	12,393	6,407	23	3,314	8,314	8,314	50	50	50	50	
Total	...	...	3,411,657	3,411,657	5,73,159	1,759,132	9,48,297	7,90,595	...	...	...	...	...	...	...	...	...	...	...	...
Minor Irrigation Works.																				
Shabhar (Imperial) Irrigation Canal.	170	...	19,549	19,549	57,549	57,549	10,709	10,709	10,709	62	783	10	570	570	570	83	83	83	83	
Obagar Irrigation Canal (British)	97	26	10,137	9,124	18,261	17,376	25,127	25,127	25,127	...	...	...	725	725	725	39	39	39	39	
" " (British)	151	...	3,231	3,231	3,231	3,231	12,012	12,012	12,012	...	727	603	231	231	231	51	51	51	51	
Lower Sutlej Irrigation Canal.	151	...	119,673	127,102	214,311	154,121	3,374	320,611	312,526	21,058	17	605	3,105	3,105	3,105	105	105	105	105	
Chenab Irrigation Canal.	143	...	14,776	76,753	111,248	114,171	56,775	1,90,724	178,378	2,331	693	634	2,355	2,355	2,355	88	88	88	88	
Muzaffargarh Irrigation Canal.	169	17	199,649	155,643	224,779	215,049	598,453	570,672	594,115	1,613	53,730	135	5,531	5,531	5,531	72	72	72	72	
Shabhar (Provincial) Irrigation Canal.	122	...	6,465	6,719	21,619	23,025	31,404	29,715	31,404	...	27	609	430	430	430	79	79	79	79	
Total	...	...	432,318	1,97,452	630,669	653,615	1,085,937	959,097	...	...	...	...	...	...	...	...	...	...	...	...

APPENDIX A TO STATEMENT I. E.

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED DURING THE YEAR 1916-17.

CAUSE OF REMISSION.	Kharif, 1916.				Rabi, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
WESTERN JUMNA CANAL.								
1. Wrong assessment ...	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.	
2. Escape irrigation	53	...	...	...	53	...	...
3. Under Tenancy Rules	210	...	...	...	16	...	...
4. Short supply	1	...	...	...	1	...	...
5. Hail	2,116	...	...	...	1,060	...	...
6. Frost	5	...	...	...	...	...	...
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	247 31	...	...	...	90 17	...	...
9. Rats
10. Locusts	83	...	...	...	...	...	...
11. Other insects and blight	916	...	...	...	204	...	...
12. Bad germination or cultivation	444	...	...	...	61	...	...
13. Bad soil	21	...	...	...	18	...	...
14. High land
15. Miscellaneous	123	...	...	...	362	...	...
Total ...	342,058	(A) 4,855	317,913	1.39	478,005	(A) 1,879	480,544	0.89
SIRHIND CANAL (IMPERIAL).								
1. Wrong assessment	10	...	...	...	19	...	...
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	23	...	...	...	4,601	...	...
5. Hail	22	...	...	...	596	...	...
6. Frost	38	...	...
7. High wind	29	...	...	...	13	...	...
8. Flooding { (a) by heavy rain (b) from canal	23 3	...	...	...	28	...	...
9. Rats
10. Locusts	11	...	...	...	...	...	...
11. Other insects and blight	2,108	...	...	...	495	...	...
12. Bad germination or cultivation	23	...	...	...	31	...	...
13. Bad soil	5	...	...
14. High land
15. Miscellaneous	317	...	...	...	1,740	...	...
Total ...	330,776	2,814	333,591	0.84	550,763	7,429	558,191	1.33
UPPER BARI DOAB CANAL.								
1. Wrong assessment	29	...	...	...	23	...	...
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	49	...	...	...	12,511	...	...
5. Hail	1,376	...	...
6. Frost
7. High wind	160	...	...
8. Flooding { (a) by heavy rain (b) from canal	8,102 ...	...	...	...	81	...	...
9. Rats
10. Locusts	65	...	...	...	...	...	...
11. Other insects and blight	5,183	...	...	...	41	...	...
12. Bad germination or cultivation	69	...	...	...	2	...	...
13. Bad soil	42	...	...	...	137	...	...
14. High land
15. Miscellaneous	669	...	...	...	174	...	...
Total ...	551,738	14,565	566,303	2.64	617,183	14,508	631,991	2.32
LOWER BARI DOAB CANAL.								
1. Wrong assessment	131	...	...	...	72	...	...
2. Escape irrigation
3. Under Tenancy Rules	92,100	...	...	...	80,267	...	...
4. Short supply	607	...	...	...	7,818	...	...
5. Hail	878	...	...
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	126 69	...	...	...	10 70	...	...
9. Rats
10. Locusts
11. Other insects and blight	1,616	...	...	...	864	...	...
12. Bad germination or cultivation	2,244	...	...	...	5,593	...	...
13. Bad soil	14,426	...	...	...	18,353	...	...
14. High land	203	...	...	...	457	...	...
15. Miscellaneous	6,775	...	...	...	9,170	...	...
Total ...	180,125	118,319	298,444	47.05	142,710	123,777	266,493	46.45

(A) Detail of area remitted:-

	Kharif.	Rabi.
In the four Divisions ...	4,439	1,824
In Patiala State ...	242	13
In Jind State ...	176	42
Total ...	4,855	1,879

STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED
DURING THE YEAR 1916-17—CONTINUED.

CAUSE OF REMISSION.	KHAMIF, 1916.				RABI, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
	2	3	4	5	6	7	8	9
UPPER CHENAB CANAL.								
1. Wrong assessment	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.	
2. Escape irrigation	12	...	...
3. Under Tenancy Rules	...	80	...	...	...	...	...	...
4. Short supply	...	730	...	...	...	...	...	...
5. Hail	...	1,009	...	...	...	13,160	...	...
6. Frost	120	...	...
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	993	...	...	...	2	...	...
9. Rats
10. Locusts	...	355	...	...	...	...	...	...
11. Other insects and blight
12. Bad germination or cultivation	...	609	...	...	...	...	...	...
13. Bad soil	...	2,027	...	...	...	...	...	...
14. High land	281	...	...
15. Miscellaneous
16. Perpetual remission	...	616	...	...	...	60	...	...
17. Dug Nallah
Total	270,479	0,498	265,917	2.25	137,014	13,640	151,650	9.8
LOWER CHENAB CANAL.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	...	110	...	...	...	31,302	...	...
6. Frost	...	107	...	...	...	22,747	...	...
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	658	...	...	...	10	...	...
9. Rats	...	8	...	...	...	2	...	...
10. Locusts	...	112	...	...	...	...	...	...
11. Other insects and blight	...	8	...	...	...	...	...	...
12. Bad germination or cultivation	...	516	...	...	...	78	...	...
13. Bad soil	...	349	...	...	...	1,632	...	...
14. High land	...	186	...	...	...	2,957	...	...
15. Miscellaneous	...	1,061	...	...	...	165	...	...
Total	712,125	3,146	715,270	0.44	1,608,849	63,110	1,571,450	4.01
UPPER JHELUM CANAL.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail
6. Frost	2,750	...	...
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	111	...	...	...	...	...	...
9. Rats	...	141	...	...	...	...	...	...
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	25	...	...	...	...	...	...
13. Bad soil	...	29	...	...	...	...	...	...
14. High land	126	...	...
15. Miscellaneous	...	55	...	...	...	130	...	...
Total	42,012	401	42,413	0.94	72,177	3,015	75,192	0.04
LOWER JHELUM CANAL.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules	...	1,004	...	...	...	1,012	...	...
4. Short supply	...	9	...	...	...	3,304	...	...
5. Hail	...	2	...	...	...	699	...	...
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	3	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	31	...	...	...	...	...	...
13. Bad soil	...	1,368	...	...	...	403	...	...
14. High land	...	101	...	...	...	191	...	...
15. Miscellaneous	...	16	...	...	...	164	...	...
Total	237,413	2,584	239,997	1.08	559,871	5,803	594,764	1.04

**STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED
DURING THE YEAR 1916-17—CONTINUED.**

CAUSE OF REMISSION.	Kharif, 1916.				Rabi, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
UPPER SUTLEJ INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	4,912	...	...	...	...	...	...
5. Hail
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	5,149	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight	140	...	...	...	...	...	...
12. Bad germination or cultivation
13. Bad soil
14. High land
15. Miscellaneous
Total ...	142,876	10,101	152,980	6.7	160,591	...	160,691	...
SIDHNAI CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	4,675	...	...	...	23,166	...	...
5. Hail
6. Frost
7. High wind
8. Flooding { (1) by heavy rain (2) from canal (3) from river	43	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight	71	...	...	...	...	...	...
12. Bad germination or cultivation	11,173	...	...	...	...	...	...
13. Bad soil	7,158	...	...
14. High land
15. Miscellaneous	75	...	...	...	2,276	...	...
Total ...	98,596	16,037	114,933	18.95	150,998	32,025	163,628	17.77
INDUS INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	10,606	...	...	...	1,564	...	...
5. Hail	1,332	...	...
6. Frost
7. High wind	1,190	...	...	...	1,872	...	...
8. Flooding { (1) by rain (2) from canal (3) hill torrent (4) from river	217 431 1,496 1,571	...	...	...	...	...	...
9. Rats
10. Locusts
11. Other insects and blight	701	...	...
12. Bad germination or cultivation
13. Bad soil	22,193	...	...	...	11,253	...	...
14. High land	1,624	...	...	...	...	...	...
15. Boma water
16. Scanty rain	93	...	...
17. Miscellaneous	552	...	...
Total ...	140,470	39,471	179,941	21.93	67,910	17,307	65,217	20.80

**STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED.
DURING THE YEAR 1916-17—CONTINUED.**

CAUSE OF REMISSION.	Kharif, 1916.				Rabi, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
	Acres.	Acres.	Acres.		Acres.	Acres.	Acres.	
CHENAB INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	...	6,601	...	...	...	...	...	...
6. Frost	1,874	...	...
7. High wind
8. Flooding { (1) by rain
(2) from canal	...	8,872	...	...	...	...	...	...
(3) from river
9. Rats
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	7	...	...	...	...	...	...
13. Bad soil	...	17	...	...	...	...	...	...
14. High land	...	6,415	...	...	...	5,637	...	...
15. Miscellaneous	...	62	...	...	...	830	...	...
Total	78,553	17,004	93,557	18.18	104,171	7,317	111,618	6.98
LOWER SUTLEJ INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	...	82	...	...	...	...	...	...
6. Frost	8	...	...
7. High wind
8. Flooding { (a) by heavy rain	4,776	...	...
(b) from canal	...	6,547	...	...	...	...	...	...
9. Rats	...	42	...	...	...	...	...	...
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	608	...	...	...	169	...	...
13. Bad soil	...	256	...	...	...	...	...	...
14. High land	...	12,862	...	...	...	4,303	...	...
15. Miscellaneous	...	1,454	...	...	...	12,134	...	...
Total	127,102	21,881	149,078	14.68	193,421	21,390	214,611	9.05
MUZAFFARGARH INUNDATION CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail	...	8,440	...	...	...	1,892	...	...
6. Frost	14	...	...
7. High wind
8. Flooding { (a) by heavy rain	...	2,490	...	...	...	...	...	...
(b) from canal
9. Rats	13	...	...
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	...	615	...	...	...	65	...	...
13. Bad soil	...	4,175	...	...	...	658	...	...
14. High land	9,889	...	...
15. Miscellaneous	...	8,946	...	...	...	1,689	...	...
Total	155,023	14,056	169,080	8.6	215,049	13,720	228,769	6.0

**STATEMENT SHOWING AREAS ON WHICH OCCUPIERS' RATES WERE REMITTED
DURING THE YEAR 1916-17—CONCLUDED.**

CAUSE OF REMISSION.	KHANIF, 1916.				RABT, 1916-17.			
	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.	Area assessed.	Area remitted.	Total area irrigated.	Percentage remitted.
1	2	3	4	5	6	7	8	9
SHAHPUR IMPERIAL CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply
5. Hail
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	44	...	...	...	...	...	...
9. Rate
10. Locusts
11. Other insects and blight	163	...	...	...	...	...	...
12. Bad germination or cultivation	...	163	...	...	...	...	...	...
13. Bad soil
14. High land
15. Miscellaneous	1,412	...	...
Total ...	19,307	376	19,683	1.91	25,674	1,412	27,086	5.21
GHAGGAR CANALS.								
1. Wrong assessment	3	...	...
2. Escape irrigation
3. Under Tenancy Rules
4. Short supply	813	...	...	...	781	...	...
5. Hail
6. Frost
7. High wind	1,788	...	...
8. Flooding { (a) by heavy rain (b) from canal
9. Rate
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation
13. Bad soil
14. High land
15. Miscellaneous	20	...	...	...	...	...	...
Total ...	12,658	(A) 833	13,491	6.17	24,301	(B) 2,572	23,970	9.57
SHAHPUR PROVINCIAL CANALS.								
1. Wrong assessment
2. Escape irrigation
3. Under Tenancy Rules	110	...	...	...	1,133	...	...
4. Short supply
5. Hail
6. Frost
7. High wind
8. Flooding { (a) by heavy rain (b) from canal	...	20	...	...	...	...	...	...
9. Rate
10. Locusts
11. Other insects and blight
12. Bad germination or cultivation	390	...	...
13. Bad soil
14. High land
15. Miscellaneous
Total ...	6,719	130	6,856	2.0	23,026	1,523	24,549	6.3
					(A)	(B)		
British	813	784		
Bikaner	20	1,788		
Total ...					833	2,572		

II.E. STATEMENT SHOWING INCIDENCE OF WORKING EXPENSES AND ASSESSED WATER REVENUE ON THE CANALS IN THE PUNJAB DURING 1916-17.

NAMES OF CANALS.		WATER-RATE ASSESSED IN 1916-17.										WORKING EXPENSES.				OCCUPIERS' RATES.				TOTAL WATER RATE DIRECT AND INDIRECT.	
		Average discharge of the year at canal head feet	Occupier's.	Owner's.	Total direct.	Indirect.	Total direct and indirect.	Gross assessed revenue from all sources, direct and indirect.	Working expenses, direct and indirect.	Area assessed during 1916-17.	Per cent on gross revenue.	Per acre assessed.	Per cuase of discharge.	Per acre assessed.	Per cuase of discharge.	Per acre assessed.	Per cuase of discharge.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17					
MAJOR IRRIGATION WORKS.																					
Western Juma Canal (including Sirsa Branch, British and Patiala).	3,052	30,19,883	...	30,19,883	2,08,310	32,28,193	33,97,117	Rs. 41,59,678	Acres. 821,723	4397	1.77	478	3.68	989	393	1,057					
Sirhind Canal (British)	3,350	35,31,358	...	35,31,358	1,42,791	36,77,149	39,14,728	Rs. 13,87,160	581,539	3616	1.57	414	4.01	1,055	417	1,098					
" " (Patiala, Nabha and Jind States)	2,182	23,17,590	...	23,17,590	...	23,17,590	21,23,586	Rs. 4,43,093	532,080	3890	1.77	432	4.38	1,092	436	1,083					
Upper Bari Doab Canal	3,540	41,24,059	...	41,24,059	6,08,875	47,32,934	51,39,331	Rs. 14,19,125	1,172,221	2766	1.21	401	3.53	1,165	409	1,351					
Lower Bari Doab Canal	2,450	10,77,419	...	10,77,419	2,02,924	12,80,343	13,17,310	Rs. 6,26,326	272,541	4789	2.29	265	3.95	440	469	523					
Upper Chenab Canal	2,520	21,97,410	...	21,97,410	5,84,987	28,72,397	22,96,296	Rs. 8,38,261	417,303	2801	2.00	331	5.48	801	688	1,130					
Lower Chenab Canal	7,950	83,93,148	...	83,93,148	74,18,563	1,57,93,711	1,56,93,178	Rs. 27,19,783	2,220,473	1711	1.23	812	3.77	1,066	711	1,985					
Upper Jhelum Canal	491	3,61,100	...	3,61,100	...	3,61,100	3,69,943	Rs. 6,40,795	114,189	17321	5.61	1,305	3.16	733	816	725					
Lower Jhelum Canal	2,652	27,31,870	...	27,31,870	17,54,053	44,86,363	45,00,517	Rs. 9,83,993	756,281	2187	1.23	370	3.43	1,028	565	1,859					
Upper Sutlej Canals	2,698	4,04,149	...	4,01,149	2,21,480	6,27,029	6,42,595	Rs. 4,11,395	302,947	6868	1.45	165	1.83	151	207	235					
Sirhand Canals	1,395	4,96,853	...	4,96,853	1,31,311	6,28,197	6,32,812	Rs. 1,59,012	349,891	2513	0.93	114	1.99	363	261	450					
Indus Inundation Canals	3,314	2,37,795	...	2,37,795	2,73,500	5,01,295	5,63,431	Rs. 3,98,601	268,380	7074	1.91	120	1.06	69	241	151					
MINOR IRRIGATION WORKS.																					
Shahpur (Imperial) Inundation Canals	570	1,09,480	...	1,09,480	42,082	1,51,568	1,51,568	Rs. 47,175	44,931	3111	1.04	83	2.43	183	206	...					
Ghaggar Inundation Canals (British)	725	22,573	...	22,573	...	22,573	22,573	Rs. 30,480	16,232	13199	2.08	42	2.20	31	230	31					
" " (Bikaner)	234	427,010	...	27,616	...	27,616	27,616	Rs. 16,130	26,730	2208	0.30	35	1.93	118	103	118					
Lower Sutlej Inundation Canals	3,465	3,51,272	...	3,51,272	3,05,700	6,56,972	6,61,533	Rs. 2,39,727	336,613	3523	0.74	69	1.10	101	205	100					
Chenab Inundation Canals	2,355	2,14,921	...	2,14,921	2,45,795	4,61,216	4,61,738	Rs. 1,55,761	180,721	3351	0.86	65	1.10	90	255	103					
Muzaffargarh Inundation Canals	5,634	3,22,957	...	3,22,957	4,10,619	7,39,576	7,54,249	Rs. 3,51,425	370,073	4639	0.94	84	0.87	53	200	134					
Sirshpur (Provincial) Inundation Canals	438	49,509	...	49,509	20,938	70,447	71,047	Rs. 47,609	29,745	6701	1.00	109	1.68	114	237	103					
Ravi Inundation Canals	...	...	...	...	3,222	3,222	3,222	Rs. 2,404	...	7468	...	...	...	...	...	...

* Includes Rs. 41,227 actually spent by the Patiala State.
+ " " Rs. 5,025 actually spent by the Bikaner State.
† Figures reported by the Bikaner State.

III-E.

**STATEMENT OF QUANTITY AND VALUE OF CROPS IRRIGATED IN THE
PUNJAB DURING THE YEAR 1916-17.**

STATEMENT OF QUANTITY AND VALUE OF CROPS

NAME OF CROPS.			WESTERN JUMNA CANAL.		SINKING CANAL (BRITISH).		SINKING CANAL (NATIVE STATES BRANCHES).		UPPER BARI DOAB CANAL.	
English.	Vernacular.	Scientific.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.
1	2	3	4	5	6	7	8	9	10	11
Cereals—			Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.
Wheat	Gahun	Triticum sativum	239,250	1,10,13,500	27,682	1,20,88,854	169,651	71,58,739	249,850	1,16,81,833
Barley	Joo	Hordeum vulgare	18,700	5,67,000	60,087	21,52,140	62,577	10,70,900	5,576	1,55,075
Rice	Jhona	Oryza sativa	20,534	7,81,000	11	418	4,847	1,81,195	87,585	3,57,669
Mize	Makki	Zea mays	2,231	75,854	89,233	23,50,772	14,380	15,02,404	74,509	21,02,101
Oats	Jawi	Avena sativa	54,270	16,27,800	17	639	21,209	8,49,329	3,000	69,150
Mixed Grain	Berra	...	2,709	60,609	892	20,769	2,359	51,970	129,404	45,40,340
Miscellaneous	...	...	...	...	...	...	...	...	7,710	1,70,250
Millet and pulse—			...	...	...	...	...	...	...	...
Great Millet	Jawar	Sorghum vulgare	100,583	8,30,160	16,070	1,27,070	911	10,831	...	...
Spiked Millet	Deja	Panicum spicatum	16,391	2,62,000	8,034	1,77,478	2,024	81,498	3,710	63,070
Italian Millet	Kaundi	Setaria italica	8	60	8	240	...	2,850	612	15,300
...	Mandwa	Tillandsia coriacea	120	2,620	...	...	14	230	...	...
...	Savank	Panicum frumentaceum	...	...	...	...	13	190	...	...
Gram	Channa	Cicer arietinum	68,285	20,91,600	162,657	10,61,676	35,657	9,50,874	74,017	17,07,208
Lentil	Maaz	Ervum lens	6,919	1,30,260	183	4,110	177	6,310	3,602	66,600
Pesa	Mattar	Pisum sativum	1,402	29,000	...	...	41	1,230	...	...
...	Mooh	Phaseolus radiatus	45	900	...	...	72	2,160	431	12,000
...	Mung	Phaseolus mungo	653	11,000	...	...	161	3,020	173	4,325
...	Mooh	Phaseolus acutifolia	499	7,720	...	...	240	4,035	15,101	7,79,025
Mixed Grain	Berra	Crampeus psoraleoides	7,400	1,19,015	20,020	6,07,780	1,145	34,260	10,072	2,61,425
...	Chreeta	Panicum millaceum	...	...	23	770	...	770	16	670
Miscellaneous	Maddal	...	6,568	1,34,200	...	...	...	...	210	6,210
Dries and Spices—			...	...	...	...	...	...	...	...
Tobacco	Tamaku	Nicotiana glauca	523	31,350	20	2,320	8	640	1,109	63,670
Poppy	Post	Papaver somniferum	...	...	...	...	...	...	...	...
Aniseed and Dill	Ajmain	Pimpinella anisum	1	40	...	...	...	...	...	...
Fennel	Methi	Trigonotis foeniculigrum	11,671	2,49,275	...	...	...	...	...	...
Coriander	Dhania	Coriandrum sativum	637	20,175	35	1,400	19	740	23	1,160
Cumin	Zira	Commum officinale	...	...	...	...	...	...	...	...
Turmeric	Haldi	Curcuma longa	...	...	...	...	...	...	...	...
Aniseed	Sann	Pimpinella anisum	8	320	...	...	1	40	1	70
Miscellaneous	Kandi	...	...	...	...	...	21	420	4	60
Fibres—			...	...	...	...	...	...	...	...
Cotton	Uoi	Gossypium herbaceum	62,360	61,72,100	10,709	6,02,094	29,518	18,40,111	147,021	69,21,561
Miscella Hemp	San	Hibiscus cannabinus	241	8,850	3,107	1,02,210	1,145	31,850	2,774	83,453
Falsa Hemp	Sanni	Crotalaria juncea	1,363	40,500	...	...	...	...	602	16,000
Miscellaneous	Munjkana	Erechtium minus	...	...	...	...	...	...	...	...
Dyes—			...	...	...	...	...	...	...	...
Indigo	Nili	Indigofera tinctoria	11,554	3,68,600	...	...	545	19,075	...	...
Henna	Mehndi	Lawsonia alba	...	...	...	...	...	...	...	...
Safflower	Kassumba	Carthamus tinctoria	260	7,400	...	...	...	...	...	...
Miscellaneous	...	...	...	...	...	...	...	...	...	...
Oil-seeds—			...	...	...	...	...	...	...	...
Gingelly or Sesame	Til	Sesamum indicum	125	3,075	209	5,200	14	470	2,211	65,270
Pigeon	Rayon	Brassica campestris	12,372	3,00,610	7,011	1,76,276	7,297	1,42,128	8,533	2,47,437
De.	Tona	De (Var. toria)	43	1,075	97	2,425	3	75	24,273	78,017
Linseed Flax	Taramira	Eruca sativa	2	50	242	6,050	656	15,103	400	18,250
Miscellaneous	Alsi	Linum catharticum	3	75	5	125	22	520	651	16,570
Fruits and Vegetables—			...	...	...	...	...	...	...	...
Orchards	Mitch	Capricum annuum	725	89,000	294	29,400	533	83,300	2,713	1,63,310
Chillies	Kharbura	Cucumis melo	1,143	87,400	6,110	2,65,700	1,425	71,300	11,302	5,73,290
Melons	Gajar	Daucus carota	325	19,000	177	8,520	177	8,520	...	...
Carrots	Halum	Lepidium sativum	201	6,100	64	1,320	59	1,790	1	30
Onions	Flax	Allium cepa	469	22,000	...	...	8	400	44	2,530
Turnips	Salsum	Brassica rapa	...	...	454	20,430	...	...	8,401	3,29,440
Water-nuts	Singhara	Trapa bicornis	152	6,250	...	...	...	...	21	1,500
Gardens	...	...	6,650	9,65,880	667	60,700	2,342	2,31,200	6,791	6,69,100
Potatoes	Ala	Solanum tuberosum	83	3,360	...	...	...	...	649	64,900
Vegetables	Tarkari	...	2,321	1,55,470	2,177	1,52,300	410	24,700	3,818	2,71,810
Miscellaneous	Lehsan	...	31	620	447	13,410	...	...	1,441	44,430
Fodder—			...	...	...	...	...	...	...	...
Lucerne Grass	Lusan Ghas	Medicago sativa	1,613	64,520	3	75	5	125	331	22,800
Grass	Senji	Do. Var	461	8,700	24,493	40,760	25,350	5,08,620	63,167	27,54,667
Millet, etc.	Gha	...	60	1,000	237	7,110	618	18,540	11,245	11,245
Sugarcane	Charhi	...	13,165	3,20,180	169,010	54,18,450	113,403	34,02,000	183,037	38,91,710
Miscellaneous	Mina	Saccharum officinarum	93,025	22,97,450	1,704	2,02,416	3,000	6,12,504	10	250
...	Shafal	...	...	...	...	...	...	...	42,165	81,70,710
...	Methra	...	4	60	602	3,652	1,703	10,788	...	...
Miscellaneous	...	...	...	...	...	...	1,515	21,460	134	2,080
Total			821,723	3,61,72,945	881,639	2,93,43,109	624,160	1,05,49,441	1,107,933	4,32,73,047
Fallows	...	...	2,737	...	12,743	...	7,914	...	...	...
Single watering	...	...	7,149	...	...	...	...	...	2,165	...
Plantations	...	...	11	...	...	...	...	...	12,183	...
Miscellaneous	...	...	960	...	2,622	...	...	...	...	...
Waste of water	...	...	7,800	...	...	...	...	...	...	...
Fallow	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL			821,723	3,61,72,945	881,639	2,93,43,109	624,160	1,05,49,441	1,107,933	4,32,73,047

*This includes 2,100 acres

E.

IRRIGATED IN THE PUNJAB DURING THE YEAR 1916-17.

LOWER BARI DOAB CANAL.		UPPER CHENAB CANAL.		LOWER CHENAB CANAL.		UPPER JHELUM CANAL.		LOWER JHELUM CANAL.		UPPER SUTLEJ INUNDATION CANALS (INCLUDING LOWER SOKAG AND PARO).	
Area assessed to water-irrigation.	Estimated value.	Area assessed to water-irrigation.	Estimated value.	Area assessed to water-irrigation.	Estimated value.	Area assessed to water-irrigation.	Estimated value.	Area assessed to water-irrigation.	Estimated value.	Area assessed to water-irrigation.	Estimated value.
12	13	14	15	16	17	18	19	20	21	22	23
Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.
101,095	49,45,411	61,190	26,04,871	661,419	1,01,66,732	60,770	22,71,231	196,733	1,35,68,862	54,081	10,67,708
2,616	76,410	3,021	84,110	16,141	3,49,213	2,290	61,120	6,100	2,09,436	1,811	35,412
6,871	3,30,028	204,503	1,02,40,120	42,381	20,41,032	5,110	3,15,712	6,305	3,02,610	20,614	12,62,784
10,780	2,35,061	7,091	1,40,020	107,092	21,02,498	2,678	26,303	2,678	4,02,040	7,010	81,460
532	21,090	17	878	878	21,120	12	457	8,836	5,53,440	685	10,850
1,240	37,200	331	9,800	5,917	1,71,670	105	7,979	...	...	54,470	16,34,100
...	...	8	100	...	...	...	...	...	...	...	...
30,870	4,61,050	10,016	3,42,248	22,470	5,19,883	8,075	1,47,720	73,914	13,29,832	60,812	12,16,240
4,500	1,75,000	773	15,722	23,090	5,01,221	12,070	2,07,190	11,351	7,81,575	7,857	1,89,688
311	8,699	52	1,201	170	5,299	10	173	24	700	1,491	37,025
...	...	23	100	249	5,700	31	465	691	13,365	...	8,000
2,970	79,109	7,657	1,07,097	61,829	11,12,074	952	16,771	2,097	3,00,169	33,317	6,00,347
43	1,200	266	7,600	2,772	82,500	216	6,430	11,117	30,725	178	3,600
1,001	32,020	...	...	5,081	1,01,083	...	...	549	10,910	37	740
601	16,000	...	...	21	500	...	...	140	4,200	...	19,050
2,389	58,723	11	278	201	5,021	12	260	22	120	42	1,289
1,601	36,726	...	...	5,871	1,14,827	81	2,700	1,031	25,775	242	6,050
619	13,725	491	0,099	4,767	1,09,025	...	...	2,232	55,800	4,298	85,920
20	370	88	1,180	1,328	17,225	...	...	...	...	35	875
...	...	...	...	4,157	80,140	...	...	5,126	1,02,620	218	3,105
106	8,400	303	31,119	2,810	2,00,500	76	6,000	1,302	1,04,109	7	420
127	3,175	...	...	...	...	...	...	...	...	...	...
12	480	...	...	651	22,040	10	1,140	760	22,000	380	14,760
122	4,850	...	...	...	...	...	...	...	...	325	8,000
...	...	...	...	34	1,360	...	...	...	...	...	...
...	...	...	...	11	210	...	...	...	...	...	...
38,082	18,23,372	20,893	5,00,293	1,73,467	61,62,010	2,807	67,661	51,611	2,42,712	12,654	6,02,632
181	5,430	550	10,770	1,635	40,030	80	2,070	499	14,789	481	19,530
...	...	67	2,610	2,188	65,700	49	1,470	193	12,090	8	45
...
21	960	...	...	103	4,120	...	...	...	...	...	...
...	...	10	900	32	300	41	1,230	1	160	...	875
...	...	...	...	13	...	...	...	210	6,310	85	...
...	...	...	...	...	...	...	...	131	4,020	...	...
7,068	1,81,804	670	14,500	2,413	61,733	1,000	40,320	1,421	39,788	6,200	1,20,980
1,100	28,800	3,779	84,138	66,110	17,10,708	629	16,000	5,608	1,68,069	104	2,486
16,602	3,04,416	7,273	1,40,101	2,10,071	66,18,364	1,077	1,17,707	85,012	22,60,230	935	9,480
1,131	27,216	501	11,022	2,901	61,851	123	2,712	5,881	1,60,324	276	7,000
5	120	64	1,495	1,700	4,081	16	649	331	9,321	1	24
...	...	...	...	60	2,080	...	...	...	...	...	...
...
11	830	21	1,020	600	5,120	...	...	...	...	...	...
6,082	3,04,100	1,612	82,100	36,103	17,68,160	1,603	10,160	18,807	6,43,500	245	12,250
80	2,400	1	40	292	11,080	...	...	...	4,820	14	120
40	1,470	...	...	...	...	...	...	...	1,280	10	670
10,427	4,17,080	5,516	2,30,610	62,078	21,07,120	2,108	87,040	34,030	14,39,360	2	100
18	1,800	21	5,100	2,720	2,72,000	11	1,100	...	1,73,600	12,073	4,82,820
1,183	82,610	600	12,030	7,420	4,80,300	102	7,140	1,735	1,73,600	236	23,600
...	...	10	670	484	14,520	...	...	1,083	1,17,610	5	6,740
...	...	...	...	...	...	...	...	...	...	94	...
170	8,900	49	2,160	10,471	5,73,700	5	250	...	1,41,000	7	350
1,867	80,010	5,201	1,60,120	80,690	26,80,080	360	10,800	2,822	2,63,620	565	16,860
681	19,620	624	21,280	2,017	37,610	6,850	1,00,800	4,471	1,34,130	13,582	1,35,620
2,700	81,000	11,339	3,10,770	1,96,420	33,92,820	...	...	3,001	30,120	...	...
3	75	2,222	66,725	4,003	80,000	133	3,301	1,233	31,225	...	...
1,827	1,66,675	7,635	2,01,805	60,147	62,82,650	291	20,301	6,678	8,67,300	1,809	2,20,125
...	...	85	2,125	802	67,100	30	1,500	4,410	2,20,000	...	...
415	10,375	...	...	0,497	1,62,175	8	75	677	24,425	174	1,350
40	990	...	...	7,232	24,640	...	...	180	1,32,000	...	...
208,382	83,80,314	4,05,831	1,64,78,492	2,215,001	8,60,10,215	113,508	36,62,234	701,221	2,62,20,780	302,81	69,62,212
...	...	2,226	...	...	...	...	...	...	...	...	...
8,419	...	0,810	...	5,201	...	...	...	...	...	...	...
40	...	6	...	105	...	680	...	4,803	...	76	...
...	...	...	...	14	...	...	...	2,228	...	...	...
...	...	...	...	...	...	...	...	49	...	...	...
273,841	83,89,315	417,383	1,61,78,492	2,220,471	8,60,16,242	114,168	36,62,234	709,300	2,62,20,780	302,847	69,62,212

omitted under Tenancy Rules.

STATEMENT OF QUANTITY AND VALUE OF CROPS IRRIGATED

NAMES OF CROPS.			SINDHAI CANAL.		INDUS IRRIGATION CANALS.		SHARAF (INDUSTRIAL) IRRIGATION CANALS.		GHAGGAR CANALS (BRITISH).	
English.	Vernacular.	Scientific.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.	Area assessed to water-rates.	Estimated value.
1	2	3	24	25	26	27	28	29	30	31
Cereals—										
Wheat	Gobun	Triticum sativum	103,140	49,51,008	49,701	18,02,085	18,020	8,16,737	4,370	2,18,050
Barley	Jo	Hordeum vulgare	3,130	75,121	1,253	30,709	171	4,176	7	—
Rice	Jhona	Oryza sativa	7,805	2,04,490	60,171	13,49,104	633	22,031	8,005	3,29,384
Millet	Malki	Pennisetum glaucum	2,607	33,091	18	218	107	2,481	—	—
Oats	Jawi	Avena sativa	—	—	—	—	203	3,045	—	—
Mixed Grain	Herra	—	—	—	—	—	—	—	7,631	1,90,823
Miscellaneous	—	—	1,304	26,050	—	—	—	—	—	—
Millets and Pulses—										
Great Millet	Jawar	Sorghum vulgare	33,301	3,40,615	29,383	5,55,077	8,621	1,22,760	358	1,649
Spiked Millet	Bajra	Panicum capillare	9,901	2,39,784	18,677	4,46,819	1,720	41,000	—	—
Italian Millet	K nari	Setaria italica	123	2,480	84	2,520	—	—	—	—
—	Mandira	Pennisetum polystachyon	233	10,490	209	6,230	—	—	—	—
—	Sawal	Pennisetum polystachyon	—	—	1,641	3,530	62	1,240	—	—
Gram	Chana	Cicer arietinum	14,623	2,90,640	8,422	1,68,440	3,426	92,018	1,990	1,07,730
Lentil	Masur	Ervum lens	333	6,880	68	2,610	216	3,210	—	—
—	Rawan	—	397	5,955	—	—	—	—	—	—
Pesa	Matar	Pisum sativum	701	16,890	4,364	1,00,200	—	—	—	—
—	Mach	Phaseolus radiatus	6,703	3,06,870	—	—	—	—	—	—
—	Mung	Phaseolus mungo	213	4,640	48	1,800	—	—	—	—
—	Moth	Phaseolus acutifolia	240	3,000	3,702	67,650	31	330	—	—
—	Guar	Cyamopsis tetragonoloba	—	—	—	—	—	—	754	18,850
Mixed Grain	Herra	—	3,784	85,810	63	945	213	3,160	—	—
—	Chenna	—	—	—	—	—	—	—	—	—
Miscellaneous	Maddal	—	140	2,232	—	—	—	—	469	7,037
Drugs and Spices—										
Tobacco	Tamaku	Nicotiana glauca	383	19,120	2,105	1,09,400	27	1,850	—	—
Poppy	Post	Papaver somniferum	—	—	—	—	—	—	—	—
Aniseed and Dill	Ajwain	Pimpinella anisum	—	—	—	—	—	—	—	—
Fenugreek	Methi	Trigonella foenum-graecum	—	—	—	—	—	—	—	—
Coriander	Dhania	Coriandrum sativum	192	7,090	10	400	—	—	16	400
Cumin	Zira	Communis officinalis	—	—	38	1,720	—	—	—	—
Turmeric	Haldi	Curcuma longa	—	—	—	—	—	—	—	—
Aniseed	Rauai	Pimpinella anisum	—	—	10	400	—	—	—	—
Miscellaneous	Kasni	—	9	138	—	—	—	—	—	—
Fibres—										
Cotton	Rui	Gossypium herbaceum	3,328	1,15,232	15,161	4,49,316	7,029	3,22,106	—	—
Robella Hemp	Sau	Hibiscus cannabinus	99	3,020	—	—	—	—	—	—
Fake Hemp	Sauai	Crotalaria juncifolia	—	—	—	—	15	235	—	—
Miscellaneous	Bhunjana	Saccharum munja	—	—	—	—	—	—	—	—
Dyes—										
Indigo	Nili	Indigofera tinctoria	433	12,340	6,452	2,17,660	—	—	—	—
Henna	Melindi	Lawsonia alba	—	—	22	2,080	—	—	—	—
Safflower	Kassamba	Carthamus tinctorius	—	—	—	—	—	—	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Oil-seeds—										
Gingelly or Sesame	Til	Sesamum indicum	19,161	4,25,000	301	7,221	78	1,694	—	—
Rare	Saron	Brassica campestris	217	7,209	60	2,160	3	72	397	9,025
Do.	Toria	Do. (Var. toria)	4,572	1,17,948	—	—	178	4,372	—	—
Linseed Flax	Takarita	Erucas sativa	2,341	67,218	5,421	1,31,104	190	4,590	—	—
Miscellaneous	Alei	Linum catharticum	—	—	21	—	—	—	108	2,700
Fruits and Vegetables—										
Orchards	—	—	—	—	—	—	—	—	—	—
Chillies	Mirch	Capsicum annuum	183	9,310	203	21,210	—	—	—	—
Melons	Kharbura	Cucumis melo	21	625	19	620	219	6,617	—	—
Carrots	Gajar	Daucus carota	—	—	16	850	—	—	—	—
Cress	Halsam	Lepidium sativum	—	—	—	—	—	—	—	—
Onions	Flax	Allium cepa	—	—	22	330	—	—	—	—
Turnips	Balsam	Brassica rapa	10,424	3,29,020	1,593	75,090	—	—	—	—
Water-nuts	Singhara	Lappa bicornis	—	—	—	—	78	7,400	12	1,370
Gardens	—	—	127	8,495	229	23,600	—	—	—	—
Potatoes	—	Solanum tuberosum	320	23,240	651	29,270	43	2,940	—	—
Vegetables	Tarkari	—	—	—	—	—	—	—	—	—
Miscellaneous	Lahsan	—	—	—	—	—	—	—	—	—
Fodder—										
Lucerne Grass	Lusan Ghas	Medicago sativa	—	—	1	29	—	—	—	—
Grass	Bajri	Do. Var.	4,631	40,240	2	40	—	—	—	—
Millet, etc.	Ghas	—	18,351	2,67,550	7,397	2,89,860	3,649	80,090	—	—
—	Chandi	—	—	—	—	—	—	—	—	—
—	Maha	—	—	—	—	—	—	—	—	—
Sugarcane	Ganna	Saccharum officinarum	103	23,100	67	7,125	42	4,300	—	—
—	Shafal	—	2,539	61,780	137	2,740	4	200	—	—
Miscellaneous	Methra	—	1,370	20,550	133	1,995	2,161	31,160	—	—
Grand Total										
			249,894	81,17,064	205,350	69,47,377	44,931	19,84,037	29,677	8,89,847
Fallows										
Single watering	—	—	—	—	—	—	—	—	—	—
Plantations	—	—	—	—	—	—	108	—	—	—
Miscellaneous	—	—	—	—	—	—	—	—	—	—
Waste of water	—	—	—	—	—	—	—	—	53	—
Palayes	—	—	—	—	—	—	—	—	—	—

*Includes 1,343 acre

CONCLUDED.

IN THE PUNJAB DURING THE YEAR 1916-17—CONCLUDED.

[illegible]

submitted under Tenancy Rules.

IV-E.

COMPARATIVE STATEMENT OF IRRIGATION AND RAINFALL FOR THE YEARS 1916-17 AND 1915-16 IN THE PUNJAB.

CIVIL DISTRICT	OF THE CIVIL DISTRICT.				Name	Culturable area com- manded by Irrigation Works in column 5, in acres.	Area at present proposed to be annually irrigated by works specified in column 5.	AREA IRRIGATED IN ACRES.					RAINFALL, INCHES.			
	Total area, in acres.	Culturable area, in acres.	Cultivated area, in acres.	1910-17.				1915-16			1916-17.	1915-16.				
				Kharif.				Rabi.	Total.	Kharif.			Rabi.	Total.		
1	2	3	4	5	6	(a) 6	(a) 7	8	9	10	11	12	13	14	15	
Delli	387,680	291,248	230,883	Western Jumna Canal	69,707	37,416	10,566	12,447	23,013	10,972	22,727	33,699	23,90			
Rohtak	1,469,113	1,337,621	1,157,708		67,473	260,381	86,767	119,081	205,718	86,533	123,138	209,969	19,81	10,95		
Karnal	1,937,856	1,721,629	1,121,976		643,144	245,335	84,271	118,101	204,372	81,409	123,147	204,554	24,69	14,85		
Ambala	1,198,684	873,260	748,221	Western Jumna Canal Sirhind Canal Ghaggar Canals	4,802	2,493	1,519	1,233	2,752	1,260	1,304	2,564	52,26			
					517,143	226,737	102,703	145,250	247,962	118,656	131,957	250,613	17,78	5,69		
					34,100	9,280	2,715	2,908	5,583	2,306	3,018	5,321	17,70	3,15		
Hissar	3,318,830	3,163,686	2,700,356	Total	72,978	46,831	10,237	13,000	28,337	4,218	17,788	22,006	...			
					621,821	288,351	115,716	166,257	281,972	136,179	162,761	277,940	...			
Jind State	853,613	807,434	749,528	Western Jumna Canal	219,223	60,000	29,002	35,231	64,253	26,143	31,714	57,857	21,23			
				Sirhind Canal	8,200	3,671	16,110	21,072	(b) 40,182	17,193	23,767	(c) 46,960	...			
				Total	227,423	63,671	45,112	59,363	104,435	43,336	61,481	104,817	...			
Bikaner State	4,007,210	3,925,463	1,146,684	Western Jumna Canal	1,762	480	324	637	961	483	85	568	17,65			
				Ghaggar Canals	3,618	17,309	3,254	8,786	12,090	12	3,156	3,168	13,91			
				Total	36,380	17,769	3,678	9,423	13,001	495	3,241	3,730	...			
Patiala State	3,704,779	3,403,459	2,012,533	Western Jumna Canal	179,060	59,301	12,949	46,745	79,091	35,103	23,611	63,749	18,49			
				Sirhind Canal	313,902	108,618	210,704	323,293	533,067	204,419	332,666	587,285	...			
				Total	492,922	167,919	243,653	370,038	(d) 613,661	239,527	411,507	(e) 651,034	...			
Kasbi State	131,753	87,602	76,292	Western Jumna Canal	2,451	1,882	812	910	1,723	721	797	1,518	...			
				Sirhind Canal	12,900	3,221	1,631	3,366	4,907	1,314	2,269	3,573	...			
				Total	15,380	1,613	2,443	4,276	6,719	2,085	3,056	5,091	...			
Ludhiana	822,512	816,262	720,136	Sirhind Canal	269,452	70,507	25,556	32,557	58,413	26,735	35,283	63,006	17,32			
Ferozepore	2,595,296	2,440,501	2,252,121		1,258,231	43,667	203,648	387,110	570,808	171,468	412,721	587,169	16,10	9,14		
Nabha State	620,436	608,273	504,712		145,273	39,817	38,477	51,476	(f) 92,953	38,803	64,670	(g) 103,382	...	5,38		
Faridkot State	405,249	386,153	371,055	Total	231,137	79,769	45,873	73,561	118,737	84,987	74,072	106,959	...			
Amritsar	998,006	805,173	758,303	Upper Bari Doab Canal	600,482	281,685	188,687	209,342	398,629	161,301	209,825	371,126	27,05			
Gurdaspur	1,169,408	943,046	837,364		127,638	53,450	51,778	33,762	85,570	41,064	52,544	70,698	21,78	12,61		

[illegible]

(c) Columns 6 and 7 explain the "culturable area commanded" and "area at present proposed to be annually irrigated" by the Native States Branches of the Sirdind Canal.

(d) Includes 37,725 acres irrigated on the Native States Branches of the Sirhind Canal.

(c)	Ditto	44,093	ditto	ditto
(c)	Ditto	44,093	ditto	ditto

Numero	Descrizione	Importo	Importo Totale
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[illegible]

Unit	Price	Quantity	Total
Unit 1	10.00	100	1000.00
Unit 2	20.00	50	1000.00
Unit 3	30.00	33.33	1000.00
Unit 4	40.00	25.00	1000.00
Unit 5	50.00	20.00	1000.00
Unit 6	60.00	16.67	1000.00
Unit 7	70.00	14.29	1000.00
Unit 8	80.00	12.50	1000.00
Unit 9	90.00	11.11	1000.00
Unit 10	100.00	10.00	1000.00

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flow.	Lift.	
		WESTERN JUMNA CANAL INCLUDING SIRSA BRANCH.	Rs A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
Irrigation Branch Notifi- cation No. 987 R. I., dated 30th June 1916.	I	Sugarcane	10 0 0	6 0 0	Crop.
	II	Rice and water nuts	6 8 0	4 0 0	Do.
	III	Orchards, gardens, tobacco, poppy, drugs, vege- table, apocys, melons	5 8 0	3 8 0	Gardens and orchards per half-year, the rest per crop.
	III-A	Wheat	5 0 0	3 4 0	Crop.
	IV	Cotton, fibres, dyes, oil-seeds and all rabi crops except wheat, gram, masur, senji, maina and turnips.	4 0 0	2 8 0	Do.
	V	All kharif crops not otherwise specified ...	3 0 0	1 12 0	Do.
	VI	Gram, masur, senji, turnips, carrots and maina ...	2 8 0	1 8 0	Do.
	VII	Crops grown on th "wadā" of a previous crop Single watering before ploughing not followed by a canal irrigated crop in the same or next harvest	1 4 0	0 12 0	Crop. Watering.
	VIII	Grass, village and District Board plantations— For any number of waterings in kharif season	1 4 0	0 12 0	Half-year.
		For one watering in rabi season	1 4 0	0 12 0	Do.
		For two or more waterings in rabi season ...	2 8 0	1 8 0	Do.
		LOWER CHAUTANG NALA CANAL.			
		OCCUPIER'S RATE.			
Irrigation Branch Notifi- cation No. 1631 I., dated 27th April 1900.	I	Sugarcane, rice, water-nuts	4 2 0	2 12 0	Crop.
	IV	Cotton, indigo maize	2 8 0	1 10 8	Do.
	V	Other kharif crops	1 12 0	1 2 8	Do.
	VII	Special rate—Single watering before ploughing for rabi followed by a crop	1 2 0	0 12 0	Do.
		SIRHIND CANAL.			
		ZONE I.			
		<i>All lands irrigated by the British Branches of the Sirhind Canal with the exception of those situated in the Fazilka Tahsil of the Feroze- pore District.</i>			
Irrigation Branch Notifica- tion No. 278 R. I., dated 21st December 1904 ...	I	Sugarcane	12 0 0	6 0 0	Crop.
	II	Rice, orchards, gardens, poppy, indigo, dyes, drugs and spices, water-nuts, maize, wheat, vegetables, except turnips	5 4 0	2 10 0	Orchards and gardens per half-year; the rest per crop.
	III	Cotton, chillies, melons, tobacco, fibres, barley, oil-seeds, berse, senji, all non-fodder crops in kharif and rabi not specified	4 0 0	2 0 0	Crop.
	IV	Bajra, Jowar, ohari, moth, mung, masur, guar, china, masur, gram, turnips, peas, and all kharif and rabi fodder crops not specified	3 4 0	1 10 0	Do.
Irrigation Branch Notifica- tion No. 624 R. I., dated 12th May 1918.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest Also crops grown on the "wadā" of a previous crop	1 8 0	0 12 0	Each watering. Crop.
	VI	Special rates which may be made applicable to channels selected by the Local Government— A single watering before ploughing followed by a rabi crop	2 4 0	1 2 0	

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		For
			Flow.	Lift.	
		SIRHIND CANAL—CONCLUDED.	RS. A. P.	RS. A. P.	
		Zone II.			
		<i>All lands irrigated by the British Branches of the Sirhind Canal in the Fazilka Taluk of the Ferozepore District.</i>			
Irrigation Branch Notification No. 278 B. I., dated 21st December 1904.	I	Sugarcane	10 0 0	5 0 0	Crop.
	II	Rice, orchards, gardens, poppy, indigo, dyos, drugs and spices, water-nuts, maize, wheat, vegetables (except turnips)	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	III	Cotton, chillies, melons, tobacco, fibres, barley, oil seeds, berseem, senji, all non-fodder crops in kharif and rabi not specified	8 12 0	1 14 0	Crop.
	IV	Bajra, jowar, chani, molh, mung, masur, guar, chana, masur, gram, turnips, peas and all kharif and rabi fodder crops not specified	3 0 0	1 8 0	Do.
Irrigation Branch Notification No. 624 B. I., dated 12th May 1918.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 8 0	0 12 0	Each watering.
		Also crops grown on the "wadā" of a previous crop			Crop.
		<i>All lands irrigated by other than the British Branches of the Sirhind Canal.</i>			
Irrigation Branch Notification No. 6616 I., dated 27th November 1889.	I	Sugarcane, rice, water-nuts	7 8 0	5 0 0	Crop.
	II	Gardens, orchards, tobacco, poppy, vegetables, indigo, maize	4 8 0	3 0 0	Do.
	III	Cottons, fibres, all dyes (except indigo), all rabi crops (except gram and masur)	3 12 0	2 8 0	Do.
	IV	All kharif crops not specified above and rabi crops of gram and masur	2 10 0	1 12 0	Do.
Irrigation Branch Notification No. 624 B. I., dated 12th May 1918.	V	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	0 12 0	0 8 0	Each watering.
	VI	Special rate which may be made applicable to channels selected by the Local Government.			
		A single watering before ploughing for rabi followed by a rabi crop	1 8 0	1 0 0	Crop.

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flow.	Lift.	
		UPPER BARI DOAB CANAL.	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 2621 I., dated 10th June 1891.	I	Sugarcane and water-nuts ...	7 1 0	8 8 6	Crop.
	II	Rice ...	8 0 10	8 0 5	Do.
	III	Orchards and gardens, tobacco, poppy and other drugs, vegetables, melons ...	4 8 8	2 4 4	Orchards and gardens per half-year; the rest per crop.
	IV	All dyes, fibres and oilseeds; all rabi crops except gram and masur ...	8 12 0	1 14 3	Crop.
	V	All kharif crops not specified above; rabi crops of gram and masur; all fodder crops ...	2 12 5	1 6 2½	Do.
	VI	Special rates, which may be made applicable to channels selected by the Local Government: a single watering before ploughing for rabi followed by a crop ...	2 0 4	1 0 2	Do.
Irrigation Branch Notification No. 628 R. I., dated 12th May 1913.	VII	A single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest ... Crops grown on the "ardh" of a previous crop	1 0 2	0 8 1	Each watering. Crop.
	VIII	Village plantations on areas to which the provisions of Act III of 1893 have been extended and District Board plantations within the Chunian Colony—			
Irrigation Branch Notifications No. 849 R. I., dated 26th March 1907; No. 698 R. I., dated 11th December 1907; No. 930 R. I., dated 2nd July 1908.		For any number of waterings in the kharif season ...	1 3 4	0 9 8	Half-year.
		For one watering in rabi season ...	1 3 4	0 9 8	Do.
		For two or more waterings in rabi season ...	2 11 7	1 6 0	Do.
		LOWER BARI DOAB CANAL.			
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 647 R. I., dated 23rd April 1913.	I	Cane and water nuts ...	9 0 0	4 8 0	Crop.
	II	Rice ...	7 8 0	3 12 0	Do.
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons and wheat ...	5 0 0	2 8 0	Orchards and gardens per half-year; rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, senji, maina and turnips ...	4 0 0	2 0 0	Crop.
	V	All kharif crops not otherwise specified ...	3 0 0	1 8 0	Do.
	VI	(a) Gram, masur, senji, turnips and maina ... (b) Crops grown on the "ardh" of a previous crop. (c) Single watering before ploughing for rabi followed by a rabi crop to be applicable only to channels selected by the Local Government.	2 4 0	1 2 0	(a) Crop, (b) and (c) acre.
	VII	Grass, village and District Board plantations—			
		For any number of waterings in kharif season.	1 4 0	0 10 0	Half-year.
		For one watering in rabi season ...	1 4 0	0 10 0	Do.
		For two or more waterings in rabi season...	2 8 0	1 4 0	Do.
	VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest. (b) Hemp (sau) and indigo which has been ploughed in as green manure before the 15th September.	0 8 0	0 4 0	Acre.

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. P.	Rs. A. P.	
UPPER CHENAB CANAL.					
OCCUPIER'S RATE.					
Irrigation Branch Notification No. 0228 R. 1, dated 8th August 1912.	I	Cane and water-nuts	9 0 0	4 8 0	Crop.
	II	Rice	7 8 0	3 12 0	Do.
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetable, melons and wheat	5 0 0	2 8 0	Orchards and gardens per half-year; rest per crop.
	IV	Cotton, fibres, dyos (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, senji, masha and turnips	4 0 0	2 0 0	Crop.
	V	All kharif crops not otherwise specified	3 0 0	1 8 0	Do.
	VI	(a) Gram, masur, senji, turnips and masha (b) Crops grown on the 'wad' of a previous crop. (c) Single watering before ploughing for rabi followed by a rabi crop to be applicable only to channels selected by the Local Government.	2 4 0	1 2 0	(a) Crop, (b) and (c) acre.
Irrigation Branch Notification No. 55 R. 1, dated 18th January 1918.	VII	Grass, village and District Board plantations— For any number of waterings in the kharif season... .. For one watering in rabi season... .. For two or more waterings in rabi season	1 4 0 1 4 0 2 8 0	0 10 0 0 10 0 1 4 0	Half-year. Do. Do.
	VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or the next harvest. (b) Hemp (gan) and indigo which has been ploughed as green manure before the 15th September.	0 8 0	0 4 0	Acre.
LOWER CHENAB CANAL.					
OCCUPIER'S RATE.					
<i>Applicable to—</i>					
(a) all estates in the Gujranwala District which were established before the 1st January 1892;					
(b) all estates in the Jhang District which were established before 1st January 1892, except those which were transferred from the Montgomery to the Jhang District by Revenue and Agriculture Notification No. 870 of 4th May 1899; and such proprietary wells as are now or may hereafter be included within the boundaries of the Colony mauzas;					
(c) all estates in the Gugeru and Montgomery Tahsils of the Montgomery District which were established before 1st January 1894; and					
(d) all estates in the Multan and Lahore Districts which were established before 1st April 1902.					

**STATEMENT SHOWING OCCUPIER'S RATE/IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. P.	Rs. A. P.	
		LOWER CHENAB CANAL—CONTINUED.			
		OCCUPIER'S RATE—continued.			
Irrigation Branch Notification No. 617 R. I., dated 18th June 1903.	I	Sugarcane, water-nuts	8 0 0	4 4 0	Crop.
	II	Rice	6 12 0	8 10 0	Do.
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons	5 8 0	3 0 0	Orchards and gardens per half-year; the rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops (except gram and masur)	4 4 0	2 5 0	Crop.
	V	All kharif crops not otherwise specified, and gram and masur	8 0 0	1 12 0	Do.
Irrigation Branch Notification No. 688 R. I., dated 12th May 1918.	VI	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 12 0	1 2 0	Each watering.
		Also crops grown on the "wadā" of a previous crop			Crop.
	VII	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government	2 4 0	1 6 0	Acre.
	VIII	Grass—			
		For any number of waterings in the kharif season,	1 4 0	0 10 0	Half-year.
Irrigation Branch Notification No. 6141 R. I., dated 12th October 1903		For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season,	2 8 0	1 4 0	Do.
		<i>Applicable to estates other than those referred to in Notification No. 617 R. I., dated 18th June 1903, above.</i>			
	I	Sugarcane	7 8 0	8 12 0	Crop.
	II	Rice	5 4 0	8 2 0	Do.
Irrigation Branch Notification No. 82 R. I., dated 6th January 1892.	III	Orchards, gardens, tobacco, indigo, vegetables, poppy, dhanla, zira, saunf, melons	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops (except gram and masur)	8 12 0	1 14 0	Crop.
	V	All kharif crops not otherwise specified, and gram and masur	2 8 0	1 4 0	Do.
	VI	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 4 0	0 10 0	Each watering.
	VII	Also crops grown on the "wadā" of a previous crop			Crop.
Irrigation Branch Notification No. 688 R. I., dated 12th May 1918.	VIII	Grass, village plantations in Colony villages, and District Board plantations in the Colony—			
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.
		For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season,	2 8 0	1 4 0	Do.
Irrigation Branch Notifications No. 6141 R. I., dated 12th October 1903, and No. 813 R. I., dated 18th December 1905, and No. 701 R. I., dated 11th December 1907.					

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.																																																																																											
			Flow.	Lift.																																																																																												
		LOWER CHENAB CANAL—CONTINUED. OCCUPIER'S RATE—concluded. <i>Applicable to the following estates selected by the Local Government.</i>	Rs. A. P.	Rs. A. P.																																																																																												
		<table><thead><tr><th>Division.</th><th>District.</th><th>Settlement assessment circle.</th><th>No. of Chaks and Branch.</th></tr></thead><tbody><tr><td>Upper Gugera.</td><td>Gujranwala</td><td>Gugera Branch I.</td><td>597, 598 and 599, Gugera Branch.</td></tr><tr><td>Lower Gugera.</td><td>Lyalpur</td><td>Ditto</td><td>21 and part of 75 and 161, Gugera Branch.</td></tr><tr><td rowspan="2">Lyalpur</td><td>Lyalpur...</td><td>Jhang Branch I.</td><td>167 and half of 27, Jhang Branch.</td></tr><tr><td>Jhang ...</td><td>Ditto</td><td>120, 170, 187, 181, 114, 148, 173, 163, 170 and 167, Jhang Branch.</td></tr><tr><td rowspan="2"></td><td>Lyalpur</td><td>Jhang Branch II.</td><td>321, 311, 325, 300 and 370, Jhang Branch.</td></tr><tr><td>Jhang</td><td>Ditto</td><td>172, 173, 175, 170, 177, 163, 208, 209, 212, 217, 216, 215, 220, 224, 247, 216, 219, 277, 277, 275, 270 and 270, Jhang Branch.</td></tr><tr><td rowspan="2">Jhang...</td><td>Lyalpur...</td><td>Jhang Branch III.</td><td>307, 308, 309, 401, 402, 406, 400, 410, 411, 412, 434 and 436, Jhang Branch.</td></tr><tr><td>Jhang ...</td><td>Ditto</td><td>442, 419, 410, 447, 448, 450, 470, 451, and 403, Jhang Branch.</td></tr><tr><td rowspan="3">Irrigation Branch Notifi- cation No. 0276 R. I., dated 26th August 1912.</td><td>Lower Gugera.</td><td>Lyalpur...</td><td>Gugera Branch I.</td><td>116, 207 and 240, Gugera Branch.</td></tr><tr><td>Jhang ...</td><td>Ditto ...</td><td>Jhang Branch III.</td><td>421, 331, 310, 342, 373, 470 and 440, Jhang Branch.</td></tr><tr><td>Ditto ...</td><td>Jhang ...</td><td>Jhang Branch II.</td><td>170, Jhang Branch.</td></tr><tr><td rowspan="2">Irrigation Branch Notifi- cation No. 90 R. I., dated 22nd January 1913.</td><td>Lower Gugera.</td><td>Lyalpur ...</td><td>Gugera Branch II.</td><td>274, 275, 397, 328, 329, 370 and 320, Gugera Branch.</td></tr><tr><td>Buraha ...</td><td>Ditto ...</td><td>Ditto</td><td>307, 301, 302, 303, 301, 304, 312, 315 and 316, Gugera Branch.</td></tr><tr><td rowspan="2">Irrigation Branch Notifi- cation No. 9301 R. I., dated 21st September 1914.</td><td>Khaniki ...</td><td>Gujranwala</td><td>...</td><td>11, 122 and 288, Rakh Branch.</td></tr><tr><td>Upper Gugera.</td><td>Ditto</td><td>...</td><td>12, 13, 20, 30, 31, 34 and 40, Rakh Branch.</td></tr><tr><td rowspan="2"></td><td>Ditto</td><td>Lyalpur...</td><td>...</td><td>57, 61, 107 and 160, Rakh Branch.</td></tr><tr><td>Lya lya ...</td><td>Ditto ...</td><td>...</td><td>175, 211, 217, 215, 240 and 281, Rakh Branch.</td></tr><tr><td rowspan="2">Irrigation Branch Notifi- cation No. 016 R. I., dated 1st June 1915.</td><td>Jhang ...</td><td>Jhang ...</td><td>...</td><td>408, 475, 470, 470, 480, 481, 484, 480, 480, 483, 498, 500, 503, 504 and 500, Jhang Branch.</td></tr><tr><td>Buraha ...</td><td>Lyalpur...</td><td>...</td><td>567, 578, 581, 585, 587, 513, 518, 510, 521, 522 and 523, Buraha Branch.</td></tr><tr><td rowspan="2"></td><td>Lower Gugera.</td><td>Ditto ...</td><td>...</td><td>321, Gugera Branch, Lower.</td></tr><tr><td>Upper Gugera.</td><td>Ditto ...</td><td>...</td><td>550, Gugera Branch, Upper.</td></tr></tbody></table>	Division.	District.	Settlement assessment circle.	No. of Chaks and Branch.	Upper Gugera.	Gujranwala	Gugera Branch I.	597, 598 and 599, Gugera Branch.	Lower Gugera.	Lyalpur	Ditto	21 and part of 75 and 161, Gugera Branch.	Lyalpur	Lyalpur...	Jhang Branch I.	167 and half of 27, Jhang Branch.	Jhang ...	Ditto	120, 170, 187, 181, 114, 148, 173, 163, 170 and 167, Jhang Branch.		Lyalpur	Jhang Branch II.	321, 311, 325, 300 and 370, Jhang Branch.	Jhang	Ditto	172, 173, 175, 170, 177, 163, 208, 209, 212, 217, 216, 215, 220, 224, 247, 216, 219, 277, 277, 275, 270 and 270, Jhang Branch.	Jhang...	Lyalpur...	Jhang Branch III.	307, 308, 309, 401, 402, 406, 400, 410, 411, 412, 434 and 436, Jhang Branch.	Jhang ...	Ditto	442, 419, 410, 447, 448, 450, 470, 451, and 403, Jhang Branch.	Irrigation Branch Notifi- cation No. 0276 R. I., dated 26th August 1912.	Lower Gugera.	Lyalpur...	Gugera Branch I.	116, 207 and 240, Gugera Branch.	Jhang ...	Ditto ...	Jhang Branch III.	421, 331, 310, 342, 373, 470 and 440, Jhang Branch.	Ditto ...	Jhang ...	Jhang Branch II.	170, Jhang Branch.	Irrigation Branch Notifi- cation No. 90 R. I., dated 22nd January 1913.	Lower Gugera.	Lyalpur ...	Gugera Branch II.	274, 275, 397, 328, 329, 370 and 320, Gugera Branch.	Buraha ...	Ditto ...	Ditto	307, 301, 302, 303, 301, 304, 312, 315 and 316, Gugera Branch.	Irrigation Branch Notifi- cation No. 9301 R. I., dated 21st September 1914.	Khaniki ...	Gujranwala	...	11, 122 and 288, Rakh Branch.	Upper Gugera.	Ditto	...	12, 13, 20, 30, 31, 34 and 40, Rakh Branch.		Ditto	Lyalpur...	...	57, 61, 107 and 160, Rakh Branch.	Lya lya ...	Ditto	175, 211, 217, 215, 240 and 281, Rakh Branch.	Irrigation Branch Notifi- cation No. 016 R. I., dated 1st June 1915.	Jhang ...	Jhang	408, 475, 470, 470, 480, 481, 484, 480, 480, 483, 498, 500, 503, 504 and 500, Jhang Branch.	Buraha ...	Lyalpur...	...	567, 578, 581, 585, 587, 513, 518, 510, 521, 522 and 523, Buraha Branch.		Lower Gugera.	Ditto	321, Gugera Branch, Lower.	Upper Gugera.	Ditto	550, Gugera Branch, Upper.			
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Irrigation Branch Notifi- cation No. 112 R. I., dated 30th January 1912.	IV	Cotton fibres, dyes, other than indigo, oilseeds, maize, and all rabi crops except gram and masur	3 0 0	1 12 0	Crop.																																																																																											
	V	All kharif crops not otherwise specified and gram and masur.	2 0 0	1 4 0	Do.																																																																																											

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flow.	Lift.	
Irrigation Branch Notification No. 037 R. I., dated 6th June 1918.		UPPER JHELUM CANAL.	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
	I	Cane and water-nuts	9 0 0	4 8 0	Crop.
	II	Rice	7 8 0	8 12 0	Do.
	III	Orchards, gardens, tobacco, poppy, indigo, drugs, vegetables, melons and wheat	5 0 0	2 8 0	Orchards and gardens per half-year, rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds and all rabi crops, except wheat, gram, masur, senji, maian and turnips	4 0 0	2 0 0	Crop.
	V	All kharif crops not otherwise specified	3 0 0	1 8 0	Do.
	VI	(a) Gram, masur, senji, turnips and maian	2 4 0	1 2 0	(a) Crop.
		(b) Crops grown on the "wadā" of a previous crop			(b) Acre.
		(c) Single waterings before ploughing for rabi followed by a rabi crop to be applicable only to the following channels:—			(c) Acre.
		11 R. of Machiana kharif distributary.			
		12 R. or Samanpindhi kharif distributary.			
		13 R. or Saroki kharif distributary.			
		14 R. or Phalia kharif distributary.			
		Gujrat Branch, Upper Jhelum Canal. } 2 R. or Phalia Doshuka kharif distributary.			
	These channels will be open only between the 1st April and 15th October, both dates inclusive.				
VII	Grass, village and district board plantations:—				
	For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.	
	For one watering in rabi season	1 4 0	0 10 0	Do.	
	For two or more waterings in rabi season	2 8 0	1 4 0	Do.	
VIII	(a) Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest.	0 8 0	0 4 0	Acre.	
	(b) Hemp (sān) and indigo which have been ploughed as green manure before the 15th September.				
		LOWER JHELUM CANAL.			
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 07 R. I., dated 29th May 1902.	I	Sugarcane, water-nuts	10 0 0	5 0 0	Crop.
	II	Rice	6 4 0	3 2 0	Do.
	III	Orchards, gardens, tobacco, indigo, vegetables, drugs, poppy and melons	6 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	IV	Cotton, fibres, dyes (other than indigo), oilseeds, maize and all rabi crops except gram and masur	3 12 0	1 12 0	Crop.
	V	All other kharif crops, gram and masur, and all crops grown for fodder	2 8 0	1 4 0	Do.
Irrigation Branch Notification No. 682 R. I., dated 12th May 1918.	VI	Single watering before ploughing, not followed by a canal-irrigated crop in the same or next harvest.	1 4 0	0 10 0	Each watering.
		Crops grown on the "wadā" or moisture of a previous crop.			Crop.
	VII	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government	2 8 0	1 4 0	Crop.
Irrigation Branch Notifications No. 0121 R. I., dated 31st September 1903, No. 310 R. I., dated 19th December 1905, and No. 695 R. I., dated 11th December 1907.	VIII	Grass, village plantations in Colony villages and District Board plantations in the Colony—			
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.
		For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season	2 8 0	1 4 0	Do.

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. P.	Rs. A. P.	
		LOWER JHELUM CANAL—CONCLUDED.			
		<i>OCCUPIER'S RATE—concluded.</i>			
		<i>Applicable to—</i>			
		(1) <i>All villages or portions of villages in the Bhera Tahsil irrigated from the Khadir Feeder or Khadir Distributary.</i>			
		(2) <i>All villages in the Shaikpur Tahsil, except Sher Muhammadpala and Wegawal and except all villages or portions of villages irrigated from the Sahiwal Feeder including the Sahiwal Distributary and Gondal Distributary.</i>			
		(3) <i>The following villages in the Borgodha Tahsil:—</i>			
		Northern Branch Chaks—			
		Nos. 89, 93, 94, 95, 103, 104, 105, 108, 110, 112, 115 to 174 inclusive.			
		Southern Branch Chaks—			
		Nos. 60, 61, 63, 131, 133, 134, 135, 187 to 141 inclusive and Chak Jodh on the Khadir Distributary.			
Irrigation Branch Notifications No. 408 R. I., dated 20th March 1912, and No. 438 R. I., dated 3rd April 1912.	I	Sugarcane and water-nuts	7 8 0	8 12 0	Crop.
	II	Rice	4 0 0	2 0 0	Do.
	III	Orchards, gardens, indigo, vegetables, drugs and melons	5 0 0	2 8 0	Orchards and gardens per half-year; the rest per crop.
	IV	Wheat	3 4 0	1 10 0	Crop.
	V	Cotton and oilseeds	3 0 0	1 8 0	Do.
Irrigation Branch Notification No. 602 R. I., dated 12th May 1918.	VI	Fibres (other than cotton), dyes (other than indigo), maize and all rabi crops other than wheat, gram and masur	2 8 0	1 4 0	Do.
	VII	All other kharif crops, gram, masur and all crops grown for fodder (including turnips)	2 0 0	1 0 0	Do.
	VIII	Single watering before ploughing not followed by a canal-irrigated crop in the same or next harvest	1 4 0	0 10 0	Each watering.
		Crops grown on 'saff' or moisture of a previous crop			Crop.
	IX	Single watering before ploughing for rabi followed by a rabi crop, to be applicable only to channels selected by the Local Government	2 8 0	1 4 0	Crop.
	X	Grass, village plantations in Colony villages and District Board plantations in the colony—			
		For any number of waterings in the kharif season	1 4 0	0 10 0	Half-year.
		For one watering in the rabi season	1 4 0	0 10 0	Do.
		For two or more waterings in the rabi season	2 8 0	1 4 0	Do.

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
			Rs. A. P.	Rs. A. P.	
		LOWER SONAH AND FARA CANALS.			
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 428 I., dated 7th March 1898.	I	Rice, gardens and pepper	3 4 0	1 10 0	Acre.
	II	Cotton, sugarcane, melons, til and hemp	2 4 0	1 2 0	Do.
	III	All other kharif crops	1 4 0	0 10 0	Do.
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.
	V	Failed rabi crops and grasses	0 8 0	0 4 0	Do.
		UPPER SUTLEJ INUNDATION CANALS.			
		OCCUPIER'S RATE.			
		Montgomery District.			
Irrigation Branch Notification No. 422 I., dated 7th March 1898.	I	Rice, gardens and pepper	3 4 0	1 10 0	Acre.
	II	Cotton, sugarcane, melons, til and hemp	2 4 0	1 2 0	Do.
	III	All other kharif crops	1 4 0	0 10 0	Do.
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.
	V	Failed rabi crops and grasses	0 8 0	0 4 0	Do.
		OCCUPIER'S RATE.			
		Lahore District.			
Irrigation Branch Notification No. 1508 I., dated 18th April 1900.	I	Rice, gardens and pepper	3 4 0	1 10 0	Acre.
	II	Cotton, sugarcane, melons, til and hemp	2 4 0	1 2 0	Do.
	III	All other kharif crops	1 4 0	0 10 0	Do.
	IV	All matured rabi crops, plantations and vegetables.	1 0 0	0 8 0	Do.
	V	Failed rabi crops and grasses	0 8 0	0 4 0	Do.
		SIDHNAI CANALS.			
		WATER-RATE.			
		Kabirwala and Multan Tahsils.			
			Rs. A. P.		
Punjab Civil (Revenue) Department letter No. 269, dated 11th December 1899.	I	Rice, fruits and vegetables, pepper, cotton, til, sugarcane, wheat and tobacco	3 6 0		
	II	Other kharif crops	2 6 0		
	III	Other rabi crops	2 2 0		
		NOTE.—"Lift" rates to be half the "flow" rates.			
		LOWER SUTLEJ INUNDATION CANALS.			
		OCCUPIER'S RATE.			
		Mailsi Canals and Branches; Mubammadrah, Sardarwah and Branches; Bahawalwah, Lodhran and Branches.			
Irrigation Branch Notification No. 53 R. I., dated 14th February 1903.	I	Rice, gardens and pepper	2 4 0	1 11 0	Acre of matured crop.
	II	Cotton, sugarcane and til	1 12 0	1 5 0	Ditto.
	III	Other kharif crops	1 8 0	1 2 0	Ditto.
	IV	Rabi crops	0 14 0	0 10 0	Ditto.
		NOTE.—Irrigation on grass land may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONTINUED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per.
			Flw.	Lift.	
		CHENAB INUNDATION CANALS.	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE.			
		<i>Gajjuhatla, Sikandarabad-Sikandarwah and Bilochanwah Canals.</i>			
Irrigation Branch Notification No. 2188 I., dated 9th November 1899.	I	Rice, gardens and pepper	2 4 0	1 11 0	Acres of matured crop.
	II	Cotton, sugarcane and til	1 12 0	1 5 0	Ditto.
	III	Other kharif crops	1 8 0	1 2 0	Ditto.
	IV	Rabi crops	0 14 0	0 10 0	Ditto.
		NOTE.—Irrigation on grass lands may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			
		<i>Mattithal, Darsana Langana and Wali Muhammad Canals.</i>			
Irrigation Branch Notification No. 01522 I., dated 26th September 1900.	I	Rice, gardens and pepper	2 4 0	1 11 0	Acres of matured crop.
	II	Cotton, sugarcane and til	1 12 0	1 5 0	Ditto.
	III	Other kharif crops	1 8 0	1 2 0	Ditto.
	IV	Rabi crops	0 14 0	0 10 0	Ditto.
		NOTE.—Irrigation on grass lands may be assessed at half rabi rates at the discretion of the Deputy Commissioner.			
		HAJIWAH CANAL.			
Irrigation Branch Notification No. 266 R I., dated 16th November 1905.	—	In exercise of the power conferred by Section 19 (1) of the Punjab Minor Canals Act, 1905 (Punjab Act III of 1905), His Honour the Lieutenant-Governor is pleased to direct that for all irrigation from the Hajiwah Canal the following rates shall be levied <i>per acre</i> actually matured, namely:—			
		WATER RATE.			
	I	Rice, gardens and pepper	2 4 0	1 11 0	
	II	Cotton, sugarcane and til	1 12 0	1 5 0	
	III	Other kharif crops	1 8 0	1 2 0	
	IV	Rabi crops	0 14 0	0 10 0	
		Provided that on all irrigation, within the original grant of land made in the year 1880 to the late Ghulam Kadir Khan, of lands, the proprietary right in which is or may hereafter become vested—			
		(a) in the case of lineal descendants of the said Ghulam Kadir Khan; or			
		(b) in Man Muhammad Khan or Haiz Muhammad Afzal Khan, the nephews of the said Ghulam Kadir Khan or their lineal descendants;			
		the rate <i>per acre</i> actually matured whether in the kharif or rabi shall be limited to the following rates, namely:—			
		Rs. A. P.			
		Flow 0 12 0 <i>per acre.</i>			
		Lift 0 9 0 ..			

**STATEMENT SHOWING OCCUPIER'S RATE IN FORCE ON THE CANALS IN THE
PUNJAB DURING THE YEAR 1916-17—CONCLUDED.**

Authority.	Class.	Nature of crops.	RATE PER ACRE.		Per
			Flow.	Lift.	
		MUZAFFARGARH INUNDATION CANALS—CONCLUDED.	Rs. A. P.	Rs. A. P.	
		OCCUPIER'S RATE—concluded.			
		<i>Indus Canals.</i>			
Irrigation Branch Notification No. 662 R. I., dated 7th July 1903, and No. 100 R. I., dated 2nd February 1917.	I	Rice, gardens and pepper ...	2 0 0	1 0 0	Acres of matured crop.
	II	Cotton, sugarcane and indigo ...	1 0 0	0 8 0	Ditto.
	III	Other kharif crops ...	0 12 0	0 6 0	Ditto.
	IV	Rabi crops ...	0 8 0	0 4 0	Ditto.
	V	Grass lands ...	0 4 0	0 2 0	Ditto.
Irrigation Branch Notification No. 434 R. I., dated 4th May 1907.		NOTE.—The rate for grass lands to be assessed at the discretion of the Deputy Commissioner			
		GHAGGAR INUNDATION CANALS (BRITISH).			
		OCCUPIER'S RATE.			
Irrigation Branch Notification No. 318 R. I., dated 27th November 1903.	I	Sugarcane ...	8 5 0	4 4 0	Acres matured per crop.
	II	Rice and water-nuts ...	0 0 0	3 0 0	Ditto.
	III	All other crops ...	2 8 0	1 4 0	Ditto.
		PROVIDED—Provided that no occupiers' rates shall be levied in respect of any land for the term being assessed to fluctuating land revenue.			
		DELHI AND GURGAON WORKS.	Rate per acre.		
		OCCUPIER'S RATE.	Rs. A. P.		
Irrigation Branch Notification No. 553 L., dated 6th April 1898.	...	All crops ...	0 6 4½		Acres.
	...	Grass ...	0 3 3½		Do.
		NOTE.—This schedule is the same as that published in Notification No. 623 L., dated 8th December 1873, which is hereby superseded.			
		SCHEDULE OF RATES FOR SUPPLY OF WATER FOR PURPOSES OTHER THAN IRRIGATION.			
		WESTERN JUMNA CANAL, UPPER RABI DOAB CANAL, SINDH CANAL, LOWER CHENAB CANAL, UPPER JHELUM CANAL, LOWER JHELUM CANAL, UPPER CHENAB CANAL, LOWER RABI DOAB CANAL, UPPER SUTLEJ CANAL, LOWER SUTLEJ AND PABH CANALS, SINDHAI AND SIKHINDRI CANALS, LOWER SUTLEJ AND CHINDAL CANALS, UPPER CANAL, MUZAFFARGARH CANAL, SHARDA CANAL.			
Irrigation Branch Notifications Nos. 651 L., dated 8th April 1898, 276 R. I., dated 10th December 1902, 510 R. I., dated 22nd April 1913, 0105 R. I., dated 25th June 1913, and 0215 R. I., dated 12th September 1916.	...	Brick-making and pier wall building ...	0 3 0		100 cubic feet.
	...	Laying concrete and brick or stone masonry ...	0 2 0		Ditto.
	...	Metalling roads ...	10 0 0		Mile.
	...	Water supplied in bulk ...	1 0 0		2,500 cubic feet.
Irrigation Branch Notification No. 325 R. I., dated 29th October 1900.	...	Watering roadside or avenue trees ...	2 8 0		Canal mile of 5,000 feet, for kharif crop.
	...		5 0 0		Canal mile of 5,000 feet for rabi crop.
Irrigation Branch Notification No. 10237 R. I., dated 23th September 1911.	...	PROVIDED.—Except within the limits of Civil Stations, Corporations and Municipalities no charge shall be made for water used for the manufacture of bricks not subsequently used in a kiln or for pier wall building, if taken from a water-course or tank lawfully supplied from a canal and if such bricks or walls are for buildings owned by cultivators having a share in the water-course.			
	...				

PUNJAB PROVINCE.

IRRIGATION BRANCH

ADMINISTRATIVE ACCOUNTS

FOR THE YEAR

1916-17

No. Irr. 15-4-

Dated _____ **1917.**

Copy forwarded to _____

J. C. MITRA,
Accountant-General, Punjab.

Mohd. I. Am Press, Lahore.

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ADMINISTRATIVE ACCOUNTS

No. I.—General Abstract of Financial Results showing the Estimated Cost of Construction and the Interest on the Debt incurred in respect

Name of Project.	ESTIMATED COST OF CONSTRUCTION.			CAPITAL OUTLAY INCLUSIVE OF INDIRECT			
	Direct charges.	Indirect charges.	Total.	During 1916-17.			To end of
				Direct charges.	Indirect charges.	Total.	Direct charges.
PRODUCTIVE WORKS.							
Canals in Operation.							
Imperial.							
Western Jumna Canal	1,66,50,721	8,10,210	1,74,70,931	1,189	31	1,220	1,68,83,536
Upper Bari Doab Canal	2,08,71,907	7,31,773	2,16,06,680	—30,164	—1,935	—35,130	2,11,00,839
Sirhind Canal	2,12,02,740	12,12,186	2,54,14,022	36,549	—294	36,255	2,13,81,660
Lower Chenab Canal	3,18,58,000	7,49,105	3,26,08,065	6,40,021	12,217	5,59,238	3,16,78,920
Upper Sutlej Inundation Canals including Lower Sohag and Para.	16,05,076	1,01,011	17,07,010	1,451	14	1,465	17,18,805
Sidhni Canals	12,17,714	40,225	12,67,939	4,521	8	4,529	12,05,265
Lower Jhelum Canal	1,63,95,782	5,65,200	1,89,63,985	—33,101	600	—32,501	1,55,43,447
Indus Inundation Canals	28,37,220	77,064	30,14,284	8,616	429	9,045	29,01,976
TOTAL IMPERIAL	11,77,83,030	42,89,622	12,20,72,852	7,34,999	8,020	5,43,019	11,54,03,947
Contribution.							
Western Jumna Canal	11,50,478	..	11,50,478	..	..	..	11,60,478
Sirhind Canal	1,43,18,870	..	1,43,18,870	15,241	103	15,357	1,43,17,289
TOTAL CONTRIBUTION	1,54,70,348	..	1,54,70,348	15,241	103	15,357	1,54,77,767
TOTAL CANALS IN OPERATION, IMPERIAL..	11,77,83,030	42,89,622	12,20,72,852	5,31,999	8,020	5,43,019	11,54,03,947
Do. CONTRIBUTION	1,54,70,348	..	1,54,70,348	15,241	103	15,357	1,54,77,767
Canals under construction.							
Upper Chenab Canal	3,61,00,582	12,25,411	3,65,32,021	7,37,131	1,03,457	8,40,588	3,47,51,637
Lower Bari Doab Canal	2,13,00,016	6,68,462	2,20,28,462	7,53,309	38,962	7,92,271	2,14,20,273
Upper Jhelum Canal	4,40,65,253	10,56,277	4,51,21,552	14,30,288	58,540	14,88,828	4,50,11,584
TOTAL CANALS UNDER CONSTRUCTION ..	10,07,41,805	29,40,150	10,36,81,985	29,20,731	2,00,959	31,21,690	9,87,03,494
GRAND TOTAL CANALS IN OPERATION AND UNDER CONSTRUCTION.	21,85,24,835	72,30,003	22,57,54,838	31,55,730	2,08,979	36,64,709	(c) 21,41,07,441
	1,54,70,348	..	1,54,70,348	15,281	103	15,387	1,54,77,767

(a).—The seeming excess over estimate is due to suspense balances
(b).—Excludes recoveries made by Native States and credited
(c).—Excludes share of Accounts Establishment commencing from

LAHORE :

The 31st August 1917.

DEPARTMENT.

PUNJAB PROVINCE.

FOR THE YEAR 1916-17.

Minor Works, the Capital outlay thereon, the Revenue derived therefrom, the working expenses,
of 1916-17.

DURING 1916-17.						WORKING EXPENSES AND MAINTENANCE DURING 1916-17, INCLUSIVE OF INDIRECT CHARGES Nos. 3 AND 5,			NET RESULT, INCLUDING INTEREST, DIFFERENCE BETWEEN REVENUE AND WORKING EXPENSES.				Simple Interest during 1916-17.	NET RESULTS, INCLUDING INTEREST.			
Collected with Land Revenue.			Total.			Direct charges	Indirect charges.	Total	Excess revenue (sur- plus).	Excess expenditure (defect).	Rate per cent			Excess revenue (sur- plus)	Excess expenditure (defect).	Rate per cent.	
Actual trans- actions of the year.	Adjustment on account of previous year.	Total.	Actual trans- actions of the year.	Adjustment on account of previous year.	Total.						Of excess revenue	Of excess ex- penditure.				Of excess reve- nue.	Of excess ex- penditure.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	...	...
34,072	..	34,072	1,15,018	..	1,15,018	43,707	3,468	47,175	67,843	..	31.42	..					
..	21,350	..	21,850	27,818	2,602	30,480	..	8,630	..	2.40					
34,072	..	34,072	1,36,868	..	1,36,868	71,525	6,130	77,653	67,843	8,630	10.00	..					
..	3,105	..	3,105	..	3,105	..	1.00					
3,05,700	..	3,05,700	6,26,914	..	6,26,914	2,26,852	13,061	2,39,913	3,87,001								
2,46,795	..	2,46,795	4,44,042	..	4,44,042	1,49,443	6,566	1,56,009	2,88,033								
4,16,619	..	4,16,619	7,53,947	..	7,53,947	3,34,520	16,955	3,51,475	4,02,472								
6,69,114	..	6,69,114	18,24,908	..	18,24,908	7,10,815	36,582	7,47,397	10,77,508								
12,973	..	12,973	45,465	..	45,465	44,976	2,633	47,609	..	2,144							
3,222	..	3,222	3,222	..	3,222	2,109	295	2,404	818	..							
16,195	..	16,195	48,087	..	48,087	47,086	2,928	50,013	818	2,144							

J. C. MITRA,

Accountant-General, Punjab.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March 1895)	Expenditure against closed Estimates.
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1910-17.	Total.	Previous.	1910-17.	Total.	Previous.	1910-17.	Total.		
I.—WORKS.	Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.		
1. HEAD WORKS—											
B.—Land	4,710	..	4,710	..	..	..	4,710	..	4,710		
C.—Works	4,19,440	..	4,19,440	5,329	..	5,329	4,24,769	..	4,24,769		
K.—Buildings ..	42,311	..	42,311	..	..	..	42,311	..	42,311		
O.—Miscellaneous ..	13,539	..	13,539	..	..	..	13,539	..	13,539		
P.—Maintenance ..	21,839	..	21,839	..	..	..	21,839	..	21,839		
TOTAL ..	5,04,829	..	5,04,829	5,329	..	5,329	5,10,167	..	5,10,167		
MAIN CANAL AND BRANCHES											
A.—Preliminary Expenses	50,808	..	50,808	4,580	..	4,580	55,388	..	55,388		
B.—Land	2,58,542	..	2,58,542	22,259	..	22,259	2,80,801	..	2,80,801		
D.—Regulators ..	2,11,050	..	2,11,050	25,671	..	25,671	2,36,721	..	2,36,721		
E.—Falls and Weirs ..	3,61,190	..	3,61,190	42,008	..	42,008	4,03,198	..	4,03,198		
F.—River and Hill Torrent Works.	2,749	..	2,749	1,051	..	1,051	3,800	..	3,800		
F. (1) —Other Cross Drainage Works.	2,23,617	..	2,23,617	41,137	..	41,137	2,64,754	..	2,64,754		
G.—Bridges	8,23,308	..	8,23,308	51,270	..	51,270	8,74,578	..	8,74,578		
H.—Escapes	3,40,442	..	3,40,442	43,110	..	43,110	3,83,552	..	3,83,552		
I.—Navigation Works ..	13,87,990	..	13,87,990	29,661	..	29,661	14,17,651	..	14,17,651		
J.—Mills	55,117	..	55,117	3,832	..	3,832	58,950	..	58,950		
K.—Buildings	6,69,032	1,021	6,70,053	45,175	..	45,175	7,15,107	1,021	7,16,128		
L.—Earthwork	19,01,367	..	19,01,367	1,90,004	..	1,90,004	20,91,371	..	20,91,371		
M.—Plantations	19,032	..	19,032	4,050	..	4,050	23,082	..	23,082		
O.—Miscellaneous ..	51,239	..	51,239	3,768	..	3,768	55,007	..	55,007		
P.—Maintenance ..	1,58,801	..	1,58,801	18,144	..	18,144	1,76,945	..	1,76,945		
TOTAL ..	65,54,113	1,021	65,55,134	5,33,795	..	5,33,795	70,87,908	1,021	70,88,929		
3.—DISTRIBUTANCES—											
A.—Preliminary Expenses	65,053	..	65,053	12,972	..	12,972	78,025	..	78,025		
B.—Land	3,11,012	—114	3,10,898	6,956	..	6,956	3,17,854	—114	3,17,740		
C.—Works	11,87,716	..	11,87,716	1,30,924	..	1,30,924	13,18,640	..	13,18,640		
L.—Earthwork	14,05,257	..	14,05,257	1,65,612	..	1,65,612	15,70,869	..	15,70,869		
O.—Miscellaneous ..	3,83,830	..	3,83,830	29,350	..	29,350	4,13,180	..	4,13,180		
P.—Maintenance ..	54,924	..	54,924	12,585	..	12,585	67,509	..	67,509		
TOTAL ..	31,12,846	—114	31,12,731	3,68,403	..	3,68,403	37,71,245	—114	37,71,131		

ACCOUNTANT-GENERAL,
FOR THE YEAR 1916-17.
Project.
AND TO END OF 1916-17.

PUNJAB PROVINCE.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Consolidation Estimate closed on 31st March 1903).	Expenditure against closed Estimates.
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.		
4. DRAINAGE AND PROTECTIVE WORKS— A.—Preliminary Expenses .. B.—Land .. C.—Works .. L.—Earthwork .. O.—Miscellaneous .. TOTAL .. TOTAL I.—WORKS .. Add expenditure on former works ended 1916-17 .. TOTAL .. II.—ESTABLISHMENT A. DIRECTION (a) .. b. EXECUTIVE .. 8. SPECIAL QUARTY .. 9. SPECIAL FIELD ESTABLISHMENT .. 10. REVENUE AND FINANCE ALLOWANCES .. TOTAL .. Add expenditure on former works ended 1916-17 .. TOTAL .. III.—TOOLS AND PLANT 1. Repairs to tools .. 2. Plant and Machinery .. 3. Tools .. 4. Stationery .. 5. Camp Expenses .. 6. Fuel .. 7. Office Expenses .. 8. Repairs to Carriage .. 12. Miscellaneous .. TOTAL .. IV.—SUPPLY ACCOUNT. 14. STOCK .. 15. FIRST PURCHASES .. 15a. STOCK SALES .. 16. MISCELLANEOUS AND VARIOUS .. TOTAL .. GRAND TOTAL .. V.—LESS RECEIPTS ON CAPITAL ACCOUNT. NET TOTAL .. APPORTIONMENT. 6a.—IRRIGATION WORKS ..	Rs. 20,301 59,525 2,00,420 4,27,104 22,617 7,03,064 1,12,97,576 18,24,122 1,31,21,698 6,00,350 24,81,031 1,31,752 21,13,133 1,10,000 22,23,133 1,200 .. 										

Share of accounts excluded under Imperial from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Occupiers' rates ..	..	27,79,417		..	..		..
Owners' rate on irrigated land.	..	..		..	..		..
Sales of water ..	..	10,864		..	168		..		
Supply of towns..	..	..		..	..		..
Receipts from Plantations.	..	22,859		..	335		..		
Receipts from other Canal produce.	..	720		..	1		..		
Water-power ..	..	3,320		..	273		..		
Navigation Receipts.	..	73,580		..	..		..
Rent of Buildings ..	..	7,250		..	365		..		
Fines ..	..	2,310		..	130		..		
Miscellaneous and other Receipts.	..	35,206		..	55		..		
Total ..	9,70,11,581	29,44,574	9,99,56,155	33,004	1,336	34,340	9,70,11,585	23,45,910	9,99,56,495
Share of Land Revenue collected in the Civil Department.	1,57,99,500	2,08,015	1,00,07,515	..	..		1,57,99,500	2,08,015	1,99,07,515
Interest on sale proceeds of waste lands benefited.	1,395	295	1,690	..	..		1,395	295	1,690
Total ..	1,58,00,595	2,08,310	1,00,09,205	..	..		1,58,00,595	2,08,310	1,00,09,205
TOTAL RECEIPTS	11,55,12,476	31,52,884	11,59,55,360	33,004	1,336	34,340	11,55,45,486	31,51,220	11,59,99,700

OFFICE OF ACCOUNTANT GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(I.A.)—EXTENSION AND IMPROVEMENTS.									
(1).—HEAD WORKS	1,99,095	7,005	2,06,100	14,300	607	14,916	2,13,401	7,705	2,21,106
(2).—MAIN CANAL AND BRANCHES.	13,41,599	17,426	13,59,025	2,34,326	17,523	2,51,849	15,75,925	44,949	16,20,874
(3).—DISTRIBUTARIES	6,65,504	73,421	7,38,925	56,513	..	56,513	7,22,017	73,424	7,95,441
(4).—DRAINAGE AND PROTECTIVE WORKS	68,560	3,231	72,094	2,223	205	2,431	71,083	3,442	74,525
TOTAL I. A. ..	22,75,055	1,11,182	23,86,237	3,07,371	18,334	3,25,709	25,82,426	1,29,520	27,11,946
(I.B.)—MAINTENANCE AND REPAIRS									
(1).—HEAD WORKS	18,51,768	29,915	18,80,763	53,254	2,482	55,736	19,35,022	31,497	19,66,519
(2).—MAIN CANAL AND BRANCHES.	74,55,981	3,25,240	77,84,270	4,41,155	21,675	4,62,830	79,10,136	3,46,361	82,56,500
(3).—DISTRIBUTARIES	41,43,516	1,51,152	43,24,968	1,71,219	..	1,71,219	43,15,035	1,51,152	44,66,187
(4).—DRAINAGE WORKS	5,28,234	49,512	5,78,616	18,813	1,692	20,505	5,47,747	51,504	5,99,251
TOTAL I. B. ..	1,39,82,399	5,55,265	1,45,78,657	7,14,641	25,249	7,39,790	1,47,07,940	6,10,517	1,53,18,457
(I.C.)—COMPENSATION.	1,02,953	6,827	1,09,785	2,601	485	2,487	1,04,059	7,313	1,12,272
(II.)—ESTABLISHMENT.									
(5).—DIRECTION AND ACCOUNT (c)	21,10,369	55,310	21,65,679	57,372	5,109	62,571	21,97,741	61,500	22,59,250
(6).—EXECUTIVE ESTABLISHMENT	51,21,872	2,97,703	54,19,575	3,48,680	10,313	3,59,193	54,70,752	3,08,010	57,78,765
(7).—MEDICAL DO.		(b)							
(7A).—REVENUE DO	51,71,574	2,05,674	53,77,248	1,38,590	70	1,38,660	53,10,170	2,05,744	55,15,914
(7B).—NAVIGATION ESTABLISHMENT.	17,435	252	17,687	..	..	..	17,435	252	17,687
(7C).—PLANTATION ESTABLISHMENT.	790	..	790	..	..	..	790	..	790
(7D).—LEAVE AND PENSION ALLOWANCE.	..	..	..	80,450	2,181	82,631	80,450	2,181	82,631
(7E).—MILLS AND MACHINERY.	1,123	..	1,123	..	..	..	1,123	..	1,123
TOTAL ..	1,64,23,153	5,59,239	1,69,83,102	6,55,295	17,763	6,73,061	1,70,78,461	5,77,702	1,76,56,163

(a). Includes Rs. 16,263 on account of neignorance during the year. Up to date Rs. 1,86,087.

(b). " Rs. 75,781 on account of fees for collection of Revenue.

(c). " Share of accounts excluded under Imperial from 1912-13.

(d). Rs. 6,19,270 more would have been earned had not owners' rates on certain lands irrigated been remitted in favour of Revenue Waivees.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.—concluded.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(III).—TOOLS AND PLANT.									
(1).—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIAL.	1,067	8	1,649	...	...	...	1,067	882	1,649
(2).—PLANTS AND MACHINERY.	3,723	412	4,135	...	...	...	3,723	412	4,135
(3).—TOOLS ...	1,705	183	1,888	...	...	...	1,705	183	1,888
(4).—NAVIGATION PLANTS.	5,558	681	6,249	...	...	...	5,558	681	6,249
(5).—CAMP EQUIP- AGE	45	16	61	...	...	...	45	16	61
(6).—LIVE STOCK	..	...	...	...	...	...	...	..	...
(7).—OFFICE FURNITURE.	1,765	332	2,097	...	...	...	1,765	332	2,097
(12).—MISCELLANEOUS.	2,83,713	—165	2,83,548	22,640	574	23,214	3,06,353	409	3,06,762
(8).—REPAIRS AND CARRIAGE ...	2,28,111	12,148	2,40,259	522	...	522	2,28,633	12,148	2,40,781
TOTAL ...	5,25,097	14,189	5,39,886	23,162	574	23,736	5,48,859	14,763	5,53,622
(IV).—REFUNDS OF REVENUE.	3,70,244	1,134	3,71,378	...	..	..	3,70,244	1,134	3,71,378
(V).—PROFIT AND LOSS.	1,295	...	1,295	...	...	...	1,295	...	1,295
General work to end of 1864-65.	48,92,523	...	48,92,523	...	...	...	48,92,523	...	48,92,523
TOTAL ..	3,85,84,334	12,78,539	3,98,62,873	17,02,373	62,410	17,64,783	4,02,86,707	13,40,949	4,16,27,656
Indirect Charges debitable to Revenue Account as per Account No. 5.	27,01,150	78,616	27,79,766	...	..	...	27,01,150	78,616	27,79,766
TOTAL CHARGES	4,12,85,484	13,57,155	4,26,42,639	17,02,373	62,410	17,64,783	4,29,87,857	14,19,865	4,44,07,422
Balance, Not Revenue.	7,45,26,992	17,95,729	7,63,22,721	—16,69,369	—61,074	—17,30,443	7,28,67,623	17,34,653	7,45,92,278
GRAND TOTAL	11,58,12,476	31,52,884	11,89,65,360	33,004	1,336	34,340	11,58,45,480	31,54,220	11,89,99,700

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount		Amount.
	Rs.		Rs.
Total Interest charged to end of 1915-16 ...	...	Net Revenue realized to end of 1915-16 ...	...
Do. for the year 1916-17 ...	2,39,02,500	Do. during 1916-17 ...	7,45,25,892
Total outlay to end of 31st March 1917 = Rs. 1,68,83,536	...		17,95,729
Less half outlay during 1916-17 = Rs. 505	...		
Rs 1,68,82,041	...		
Interest at 8-2064 per cent ...	5,56,629		
Total ...	2,34,59,029		
Balance Revenue after defraying interest charges ...	5,28,63,092		
Total ...	7,63,22,721	Total ...	7,63,22,721

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars	Previous.	1916-17	Total.
	[Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ...	2,16,561	...	2,16,561
Leave and Pension Allowances { Imperial ...	5,03,617	31	5,03,688
{ Contribution ...	20,049	...	20,049
Total ...	5,39,237	31	5,39,268
Leave and Pension Allowances debited to Native States treated as direct charge and transferred to account No. 2 of the Canal.	20,049	...	20,049
Net debitable to Imperial ...	5,19,188	31	5,19,219
REVENUE—			
Capitalization of abatement of Land Revenue ...	16,887	225	16,892
Leave and Pension Allowances { Imperial ...	26,84,788	78,391	27,63,174
{ Contribution ...	80,450	2,181	82,631
Total ...	27,81,600	80,797	28,62,397
DEBIT—			
Leave and Pension Allowances debited to Native States treated as direct charge and transferred to account No. 3 of this Canal.	80,450	2,181	82,631
Net debitable to Imperial Revenue ...	27,01,150	78,916	27,79,706

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Western Jumna Canal Project.

No 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTIONS			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against Open Canal Sanctions	Total	Charges to date	Amount of sanctioned Estimate	Unspent Balance of Estimate.		
IMPERIAL.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES.								
Works	1,02,90,277	28,44,613	1,31,34,890			..	1,31,34,890	
Establishment ..	27,27,223	6,01,030	33,28,262	..	..	..	33,28,262	
Tools and Plant ..	1,77,785	40,275	2,18,060	..	..	..	2,18,060	
Suspense Balance ..	..	..	..	2,13,815	..	—2,13,815	2,13,815	
Total ..	1,31,95,285	34,85,917	1,66,81,202	2,13,815	..	—2,13,815	1,68,95,017	
Less Receipts on Capital Account.	11,201	280	11,481	..	..	..	11,481	
Net Total ...	1,31,84,084	34,85,637	1,66,69,721	2,13,815	..	—2,13,815	1,68,83,536	
INDIRECT CHARGES.								
Capitalized abatement of Land Revenue.	1,53,167	63,394	2,16,561	..	..	..	2,16,561	
Leave and Pension Allowances.	5,12,094	81,664	5,93,658	..	..	..	5,93,658	
Total ..	6,65,261	1,44,958	8,10,219	..	..	..	8,10,219	
GRAND TOTAL ..	1,38,49,345	36,30,595	1,74,79,940	2,13,815	..	—2,13,815	1,76,93,755	
CONTRIBUTION.								
DIRECT CHARGES.								
Works	8,34,341	66,299	9,00,640	..	..	..	9,00,640	
Establishment ..	2,17,498	19,014	2,36,512	..	..	..	2,36,512	
Tools and Plant ..	22,814	954	23,768	..	..	..	23,768	
Total ...	10,74,653	86,297	11,60,950	..	..	..	11,60,950	
Less Receipts on Capital Accounts.	472	..	472	..	..	..	472	
Net Total ..	10,74,181	86,297	11,60,478	..	..	..	11,60,478	
GRAND TOTAL ..	10,74,181	86,297	11,60,478	..	..	..	11,60,478	

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR, 1916-17.

Upper Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1890.)	Expenditure against Closed Estimate.
	Imperial.				
	Previous.	1916-17.	Total.		
1.—WORKS.	Rs.	Rs.	Rs.		
1. HEAD WORKS—					
B.—Land ... ..	..	—80	—80		
C.—Works	8,17,186	3,808	8,20,994		
K.—Buildings	63,031	2,927	65,958		
TOTAL	8,80,219	6,149	8,86,368		
2. MAIN CANAL AND BRANCHES—					
A.—Preliminary Expense	8,180	..	8,180		
B.—Land	1,44,578	—968	1,43,610		
D.—Regulators	3,52,030	..	3,52,030		
E.—Falls and Weirs	19,49,484	..	19,49,484		
F.—River and Hill Torrent Works	5,39,998	..	5,39,998		
F. (1).—Other Cross Drainage Works	1,18,245	..	1,18,245		
G.—Bridges	8,52,439	..	8,52,439		
H.—Escapes	6,38,733	..	6,38,733		
I.—Navigation Works	4,78,588	..	4,78,588		
J.—Mills	1,47,530	..	1,47,530		
K.—Buildings	10,72,388	10,826	10,83,214		
L.—Earthwork	88,73,199	26,854	89,00,053		
M.—Plantations	95,475	..	95,475		
O.—Miscellaneous	5,86,069	1,27,308	7,14,097		
P.—Maintenance	75,872	..	75,872		
TOTAL	1,09,33,409	1,64,110	1,10,97,519		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	24,333	..	24,333		
B.—Land	3,71,861	—1,898	3,69,963		
C.—Works	16,28,141	..	16,28,141		
L.—Earth work	16,98,384	..	16,98,384		
O.—Miscellaneous	3,27,080	—7,231	3,19,849		
P.—Maintenance	8,354	..	8,354		
Add Dinanagar Navigation Channel	35,776	..	35,776		
Shahpur Water Courses	63,427	..	63,427		
Lahore City Rajbaha	12,724	..	12,724		
TOTAL	41,08,830	9,126	41,17,956		

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1890)	Expenditure against Closed Estimates.
	Imperial.				
	Previous—	1916-17	Total		
	Rs	Rs	Rs	Rs	Rs.
4.—DRAINAGE AND PROTECTIVE WORKS—					
A.—Preliminary Expenses	539	...	539		
B.—Land	5,519	...	5,519		
C.—Works	28,906	...	28,906		
L.—Earthwork	95,247	...	95,247		
O.—Miscellaneous	1,163	...	1,163		
TOTAL	1,33,374	...	1,33,374		
TOTAL I WORKS.	1,61,15,76	1,61,133	1,62,77,009	1,65,04,914	1,67,30,482
II.—ESTABLISHMENT					
5. Direction	8,48,319	3	8,48,322		
6 Executive	26,44,770	—35,780	26,08,991		
7. Medical	5,465	...	5,465		
TOTAL	34,98,554	—35,786	34,62,768	34,73,497	34,25,290
III.—TOOLS AND PLANT					
Plant and Machinery	258	2,573	3,831		
4. Navigation Plant	22	...	22		
8 Repairs and Carriage	2,360	...	2,360		
Miscellaneous	9,13,237	—3,161	9,10,086		
TOTAL	9,16,877	422	9,16,299	9,13,401	8,95,258
IV.—SUSPENSE ACCOUNT					
14 Stock	5,42,941	—80,637	4,62,304		
15 ^c Stock Purchases	—1,448	—3,770	—5,219		
15 ^a Stock Sale	113	483	596		
16 Miscellaneous Advances	6,152	—2,596	3,556		
18 London Stores	69,403	—69,403	..		
TOTAL	6,17,160	—1,55,924	4,61,237		
GRAND TOTAL	2,11,47,447	—30,154	2,11,17,293	2,08,91,882	2,00,51,030
V.—Less RECEIPTS ON CAPITAL ACCOUNT.					
NET TOTAL	2,11,30,492	—30,154	2,11,00,338	2,08,74,927	2,00,34,075
APPORTIONMENT.					
49—Irrigation Works	2,11,30,492				

(a). Share of accounts excluded from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Bari Doab Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	(I.A.)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Occupiers' rates ..	9,60,57,498	42,07,119	10,02,60,617	(1.)—HEAD WORKS ..	3,45,305	41,728	3,87,123
Owners' rates on irrigated land ..	8,575	..	8,575	(2.)—MAIN CANAL AND BRANCHES ..	14,52,811	24,782	14,77,593
Sales of water ..	7,31,618	34,084	7,66,502	(3.)—DISTRIBUTARIES ..	12,57,999	33,077	12,91,076
Supply of towns ..	2,593	984	3,577	(4.)—DRAINAGE AND PROTECTIVE WORKS.	1,80,837	7,274	1,88,111
Receipts from Plantations ..	10,46,595	28,933	10,75,528	TOTAL I. A. ..	32,33,042	1,06,841	33,39,883
Receipts from other Canal produce ..	2,40,714	1,736	2,42,450	(I. B.)—MAINTENANCE AND REPAIRS.			
Water-power ..	42,97,730	1,19,487	44,17,193	(1.)—HEAD WORKS ..	47,26,213	32,937	47,59,150
Navigation Receipts ..	5,477	..	5,477	(2.)—MAIN CANAL AND BRANCHES ..	87,85,331	2,52,350	90,37,681
Rent of Buildings ..		7,802		(3.)—DISTRIBUTARIES ..	44,04,549	1,68,452	45,73,001
Fines ..	14,52,639	2,182	16,03,143	(4.)—DRAINAGE WORKS ..	1,12,321	14,861	1,27,182
Miscellaneous and other Receipts ..		1,40,520		TOTAL I. B. ..	1,80,28,414	4,63,600	1,84,92,014
Total ..	10,38,39,616	45,43,416	10,83,83,032	I. C.—COMPENSATION.	49,322	..	49,322
Share of Land Revenue collected in the Civil Department ..	1,49,00,936	6,00,120	1,55,00,962	(II.)—ESTABLISHMENT.			
Interest on sale proceeds of waste lands benefited ..	7,50,542	68,749	8,19,291	(1.)—DIRECTION AND ACCOUNTS ..	22,65,129	64,093	23,29,222
TOTAL ..	1,56,51,378	6,68,875	1,63,20,253	(2.)—EXECUTIVE ESTABLISHMENT ..	82,42,516	3,84,569	86,27,085
				(7.)—MEDICAL Do. ..	1,17,946	5,403	1,23,349
				(7A.)—REVENUE Do. ..	68,17,687	2,99,008	70,83,695
				(7C.)—PLANTATION Do. ..	40,155	..	40,155
				(7D.)—LEAVE AND PENSION ALLOWANCE ..	52	..	52
				TOTAL ..	1,74,83,496	7,20,073	1,82,03,569
				III. TOOLS AND PLANT.			
				(1.)—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS ..	107	820	925
				(2.)—PLANT MACHINERY ..	8,142	51	8,193
				(3.)—TOOLS ..	1,763	827	2,590
				(4.)—NAVIGATION PLANT ..	30	713	743
				(5.)—CAMP EQUIPAGE ..	121	..	121
				(6.)—LIVE STOCK ..	157	47	204
				(7.)—OFFICE FURNITURE ..	2,295	58	2,353
				(8.)—REPAIRS AND CARRIAGE ..	2,83,300	20,683	3,03,983
				(9.)—MISCELLANEOUS ..	3,03,187	3,12	3,06,300
				TOTAL III TOOLS AND PLANTS.	6,59,090	2,277	6,61,367
				(IV.)—REFUNDS OF REVENUE ..	1,68,187	3,427	1,71,614
				(V.)—PROFIT AND LOSS.	1,073	..	1,073
				TOTAL ..	3,96,22,902	13,21,218	4,09,44,120
				Indirect Charges debit to Revenue Account as per Account No. 5.	27,50,190	1,01,335	28,51,525
				TOTAL CHARGES ..	4,23,70,092	14,22,553	4,38,01,645
				Balance, Net Revenue ..	7,71,11,930	37,80,738	8,08,92,668
				GRAND TOTAL ..	11,94,91,023	52,12,201	12,47,03,224

(a). Share of Accounts excluded from 1912-13.

(b). Includes Rs. 1,19,015 on account of fees for collection of revenue.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Bari Doab Canal Project.

No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total interest charges to end of 1916-16 ..		Net Revenue realized to end of 1916-16 ..	7,71,11,939
Do. for the year 1916-17 ..	3,45,75,931	Do. during 1916-17 ..	37,59,732
Total outlay to end of March 1917 = Rs. 2,11,00,338			
Less half outlay during 1916-17 = „ —15,077			
Mean Capital at charge „ 2,11,15,415			
Interest at 3.2964 per cent. on above ..	6,96,049		
Total ..	3,52,71,980		
Balance Revenue after defraying Interest charges	4,56,29,683		
Total ..	8,09,01,668	Total ..	8,09,01,668

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	20,689	25	20,661
Leave and Pension Allowances ..	7,21,369	—5,010	7,16,359
Total ..	7,42,058	—4,985	7,37,073
REVENUE—			
Capitalization of abatement of Land Revenue ..	19,574	525	20,099
Leave and Pension Allowances ..	27,36,616	1,00,810	28,37,426
Total ..	27,56,190	1,01,335	28,57,525

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGE SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against current sanctions.	REMARKS.		
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent. Balance of Estimate.		Authority.	No. and date.	Amount.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			Rs.
DIRECT CHARGES—										
Works ..	1,24,50,791	32,79,601	1,57,30,482	5,46,527	7,74,432	2,27,905	1,62,77,009	G. I.	935 I	1,22,989
Establishment ..	27,91,452	6,33,838	34,25,290	37,458	48,197	10,739	34,62,748	G. I.	16-6-14 479 I	1,33,894
Tools and Plant..	4,98,215	3,97,043	8,95,258	21,041	18,203	—2,838	9,16,299	Secy.	29-4-15 1138 W. I.	8,506
Suspense Balances..	..	..	..	4,61,237	..	—4,61,237	4,61,237	I. B.	9-3-15	
Total ..	1,57,40,458	43,10,572	2,00,51,030	10,66,263	8,40,532	—2,25,431	2,11,17,293	Secy.	731 W. I.	3,696
								I. B.	4-2-13	
Less Receipts on Capital Account	16,955	..	16,955	..	..	..	16,955	G. I.	1745 I	5,05,583
								S. E.	20-11-13 308	837
								S. E.	20-1-16	
								S. E.	7370	
Net Total ..	1,37,23,503	43,10,572	2,00,34,075	10,66,263	8,40,532	—2,25,431	2,11,00,338	S. E.	22-11-16	2,058
INDIRECT CHARGES—										
Capitalized abatement of Land Revenue.	8,381	12,280	20,661	..	..	..	20,661	S. E.	1835	230
Leave and Pension Allowances.	6,22,375	88,737	7,11,112	5,247	..	—5,247	7,16,359	Secy.	2706	41,753
								I. B.	29-10-03	
Total ..	6,30,756	1,01,017	7,31,773	5,247	..	—5,247	7,37,020	Do.	126	11,145
								Do.	9-1-17 76	4,542
GRAND TOTAL	1,63,54,259	44,11,589	2,07,65,848	10,71,510	8,40,832	—2,30,678	2,18,37,358	Do.	18-12-16	4,700
								Do.	75	4,700
								Do.	18-12-16	8,40,832

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March).	Expenditure against closed Estimates.
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.		
I.—WORKS.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		
1. HEAD WORKS—											
A.—Preliminary Expenses.	483	...	483	272	..	272	755	...	755		
B.—Land	7,063	..	7,063	3,074	...	3,074	11,037	...	11,037		
C.—Works	9,17,711	23,217	9,40,928	5,16,213	13,060	5,29,273	14,33,921	36,277	14,70,201		
E.—Buildings	69,065	2,976	72,041	38,819	1,674	40,493	1,07,914	4,050	1,12,564		
O.—Miscellaneous ..	73,804	..	73,804	3,538	..	3,538	77,342	..	77,342		
P.—Maintenance ..	24,101	..	24,101	13,539	..	13,539	37,640	...	37,640		
TOTAL ..	10,92,230	29,193	11,15,423	5,76,105	14,734	5,91,139	16,68,635	40,927	17,09,562		
2.—MAIN CANAL AND BRANCHES—											
A.—Preliminary Expenses.	23,536	..	23,536	19,308	..	19,308	42,834	...	42,834		
B.—Land	5,59,880	..	5,59,880	2,51,332	..	2,51,332	8,14,212	...	8,14,212		
D.—Regulators ..	1,18,720	..	1,18,720	2,95,027	...	2,95,027	7,13,747	..	7,13,747		
E.—Falls and Weirs ..	7,74,938	..	7,74,938	3,97,909	..	3,97,909	11,72,847	...	11,72,847		
F.—(1).—Other Cross Drainage Works.	12,32,667	..	12,32,667	10,41,549	..	10,41,549	22,74,136	...	22,74,136		
G.—Bridges	8,05,833	2,572	8,08,405	4,89,940	—277	4,89,663	12,95,782	2,295	12,98,077		
H.—Escapes	1,80,086	..	1,80,086	1,03,313	..	1,03,313	2,83,399	..	2,83,399		
I.—Navigation Works	17,47,254	..	17,47,254	3,84,316	..	3,84,316	21,31,600	..	21,31,600		
J.—Mills	41,513	..	41,513	...	..	...	11,513	..	41,513		
K.—Buildings	9,41,936	..	9,41,936	3,10,345	..	3,10,345	12,55,301	...	12,55,301		
L.—Earthwork	18,83,314	—7,731	18,75,583	31,61,614	..	31,61,614	80,45,438	—7,731	80,37,707		
M.—Plantations ..	1,20,812	..	1,20,812	1,01,358	..	1,01,358	2,25,170	..	2,25,170		
N.—Tanks and Reservoirs	1,910	..	1,910	..	..	..	1,940	...	1,940		
O.—Miscellaneous ..	87,897	..	87,897	77,387	..	77,387	1,65,284	..	1,65,284		
P.—Maintenance ..	2,27,821	..	2,27,821	2,00,075	...	2,00,075	4,36,896	...	4,36,896		
TOTAL ..	120,48,107	—5,159	1,20,43,948	8,44,002	—277	8,43,725	18,00,709	—5,436	1,80,01,363		
2.—DISTRIBUTARIES—											
A.—Preliminary Expenses.	51,908	..	51,908	30,471	...	30,471	91,379	..	91,379		
B.—Land	3,86,536	..	3,86,536	72,601	...	72,601	4,59,137	..	4,59,137		
C.—Works	14,08,001	...	14,08,001	7,05,007	..	7,05,007	22,03,008	..	22,03,008		
L.—Earthwork	10,67,949	...	10,67,949	9,77,792	...	9,77,792	20,35,738	...	20,35,738		
O.—Miscellaneous ..	2,55,485	...	2,55,485	17,803	...	17,803	2,73,288	...	2,73,288		
P.—Maintenance ..	..	...	..	..	..	..	..	...	..
TOTAL ..	37,69,870	21,034	37,90,904	19,02,074	14,457	19,02,074	56,62,650	...	56,62,650		

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.
Sirhind Canal Project.

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated. (Construction Estimate closed on 31st March.)	Expenditure against closed Estimate.
	IMPERIAL.			CONTRIBUTION.			TOTAL.				
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.		
Drainage and Protective Works.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
A.—Preliminary Expenses.	31	..	31	17	..	17	48	..	48		
B.—Land ..	55,982	..	55,982	44,530	..	44,530	1,00,518	..	1,00,518		
C.—Works ..	3,303	..	3,303	1,858	..	1,858	5,161	..	5,161		
L.—Earthwork ..	5,31,372	..	5,31,372	1,24,092	..	4,24,092	9,65,464	..	9,65,464		
O.—Miscellaneous ..	..	..	..	..	..	..	..	..	..
P.—Maintenance ..	2,622	..	2,622	1,476	..	1,476	4,097	..	4,097		
TOTAL ..	5,93,310	..	5,93,310	4,71,978	..	4,71,978	10,65,268	..	10,65,268		
TOTAL I.—WORKS ..	1,75,03,613	21,034	1,75,24,647	97,90,659	14,467	98,14,116	1,73,03,272	35,491	2,73,3-761	1,73,54,170	2,73,24,203
II.—ESTABLISHMENT.											
5. DIRECTION ..	..	—982	—982	..	867	867	..	—116	—116		
6. EXECUTIVE ..	..	..	..	..	..	..	..	..	..
7. MEDICAL ..	..	..	..	(a)	..	..	..	..	..
8. SPECIAL SURVEY ..	46,55,089	—1,120	46,53,969	28,29,514	—131	28,29,383	74,84,603	—1,261	74,83,352		
8½. SPECIAL FIXED SURVEY.	..	..	..	..	..	..	..	..	..
LEAVE AND PENSION ALLOWANCES	..	..	..	5,39,950	103	5,40,053	5,39,950	103	5,40,053		
TOTAL ...	46,55,089	—2,102	46,52,987	33,69,464	836	33,70,303	80,24,553	—1,263	80,23,290	80,33,403	80,28,976
III.—TOOLS AND PLANT.											
9. NAVIGATION PLANT	..	..	..	..	..	..	..	..	..
10. MILL PLANT ..	..	..	..	..	..	..	..	..	..
11. RAILWAY PLANT AND ROLLING STOCK.	21,07,216	—99	21,05,117	11,90,922	—12	11,90,910	32,96,138	—111	32,96,027		
12.—MISCELLANEOUS.	..	..	..	..	..	..	..	..	..
13.—REPAIRS AND OAR RAGE.	..	..	..	..	..	..	..	..	..
Loss by EXCHANGE ..	2,740	..	2,740	10,568	..	10,568	13,308	..	13,308		
TOTAL ..	21,07,956	—99	21,07,857	12,01,490	—12	12,01,478	33,09,446	—111	33,09,335	33,10,107	33,09,732
IV.—SUSPENSE ACCOUNT.											
STOCK ..	1,84,824	16,615	2,03,439	..	..	..	1,84,824	16,615	2,03,439		
14. STOCK PURCHASES ..	—186	—164	—350	..	..	..	—186	—164	—350		
16a. STOCK SALES ..	55	—50	5	..	..	..	55	—50	5		
16. MISCELLANEOUS ADVANCES.	1,278	—685	593	..	..	..	1,278	—685	593		
17. LONDON INVOICES ..	..	..	..	..	..	..	..	..	..
18. LONDON STORES....	..	..	..	..	..	..	..	..	..
TOTAL ..	1,85,971	17,710	2,03,681	..	..	..	1,85,971	17,710	2,03,681		
GRAND TOTAL ..	2,44,52,629	36,549	2,44,89,178	1,43,70,813	16,284	1,43,85,897	1,98,23,242	51,833	3,86,76,075	3,86,97,742	3,86,62,011
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.	1,07,518	..	1,07,518	68,608	..	68,608	1,76,126	..	1,76,126		
NET TOTAL ..	2,43,45,111	36,549	2,43,81,660	1,43,02,005	16,284	1,43,17,289	3,86,47,116	51,833	3,86,98,949		
APPORTIONMENT.											
40. IRRIGATION WORKS	2,43,45,111	36,549	2,43,81,660	1,43,02,005	16,284	1,43,17,289	3,86,47,116	51,833	3,86,98,949		
43 M W. AND NAVIGATION, IMPERIAL.	..	..	..	..	..	..	..	..	..
.. .. PROVINCIAL	..	..	..	..	..	..	..	..	..

(a). Share of accounts excluded from 1913-14.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Occupiers' rates	6,88,20,806	39,53,965	7,27,80,771	10,831	2,602	13,578	6,88,37,790	39,56,057	7,27,94,447
Sales of water	3,86,270	26,000	4,12,270	18,810	15	18,855	4,05,110	26,015	4,31,125
Supply of towns	1,200	229	1,480	..	..	..	1,200	229	1,489
Receipts from Plantations ..	4,35,801	31,341	4,67,145	2,00,172	20,821	2,20,996	6,35,970	52,166	6,88,141
Receipts from other Canal produce	1,79,756	1,510	1,81,266	1,03,265	28	1,03,293	2,83,021	1,538	2,84,559
Water power	18,84,846	1,03,800	19,88,652	8,54,017	14,780	8,68,797	27,38,968	1,45,680	28,87,649
Navigation Receipts	2,11,676	9,795	2,21,470	1,03,900	5,116	1,09,255	3,15,654	15,141	3,30,725
Rent of Buildings	1,13,485	5,510	1,18,995	47,848	1,762	49,505	1,61,325	7,262	1,68,590
Fines	45,602	1,157	46,759	515	..	515	16,118	1,157	17,275
Miscellaneous and other Receipts	15,76,668	85,12	16,01,701	15,551	1,062	16,613	16,22,210	89,185	17,11,404
TOTAL	7,56,02,260	42,21,639	7,78,63,898	13,85,100	76,496	14,01,596	7,60,47,360	42,98,035	7,93,45,404
Share of Land Revenue collected in the Civil Department.	1,53,064	1,42,791	2,95,855	..	..	..	1,53,064	1,42,791	2,95,855
Interest on sale-proceeds of waste land benefited.	..	..	..	..	..	..	..	..	..
TOTAL RECEIPTS	7,88,15,337	43,04,330	7,81,79,663	13,85,100	76,496	14,01,596	7,52,00,433	44,40,826	7,96,41,259

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(I.A.)—EXTENSIONS AND IMPROVEMENTS.									
(1)—HEAD WORKS ..	1,92,331	28,228	2,20,559	1,08,027	15,878	1,23,905	3,00,358	44,106	3,44,464
(2)—MAIN CANAL AND BRANCHES	10,11,091	44,447	10,55,538	18,14,746	(a) 1,03,989	10,18,745	28,26,337	1,48,446	29,74,783
(3)—DISTRIBUTARIES ..	6,81,936	69,400	7,44,380	14,292	..	14,292	6,99,252	69,400	7,58,652
(4)—DRAINAGE AND PROTECTIVE WORKS.	41,250	3,197	44,447	20,452	1,798	22,250	61,732	4,995	66,727
TOTAL I. A. ..	19,30,102	1,35,272	20,65,374	19,67,157	1,21,675	20,78,832	38,87,678	2,66,947	41,54,625
(I.B.)—MAINTENANCE AND REPAIRS									
(1)—HEAD WORKS ..	7,59,011	14,149	7,73,160	4,22,408	7,958	4,30,366	11,81,417	22,106	12,03,523
(2)—MAIN CANAL AND BRANCHES	30,69,876	3,47,602	34,17,478	23,61,160	1,90,860	25,52,020	63,21,122	5,47,471	68,68,593
(3)—DISTRIBUTARIES ..	43,81,991	1,84,813	45,66,804	368	..	368	43,83,360	1,89,813	45,73,173
(4)—DRAINAGE WORKS	5,02,320	24,981	5,27,301	3,13,705	14,231	3,27,936	8,10,025	39,216	8,49,241
TOTAL I. B. ...	96,94,201	5,75,551	1,02,69,752	30,97,521	2,12,051	33,19,572	1,27,01,924	7,97,605	1,34,99,529
(I.C.)—COMPENSATION ..	36,211	140	36,351	13,117	..	13,117	49,058	140	49,198
(II)—ESTABLISHMENT									
(8)—DIRECTION AND ACCOUNT	11,22,881	48,608	11,71,489	3,46,683	22,806	3,69,489	14,69,567	71,404	15,40,971
(9)—EXECUTIVE ESTABLISHMENT	40,08,901	{ + 7,451 2,39,263 }	{ + 7,451 49,08,160 }	17,91,962	{ 87,012 + 1,763 }	{ 18,79,014 + 1,763 }	64,60,763	{ 3,23,210 + 9,214 }	{ 19,02,274 + 9,214 }
(7)—MEDICAL Do ..	1,69,025	9,728	1,78,753	51,810	2,863	54,673	2,21,135	12,081	2,33,216
(7A)—REVENUE Do. ...	52,58,000	2,72,169	55,30,169	10,610	777	11,387	52,68,610	2,73,216	55,41,826
(7B)—NAVIGATION Do ..	20,930	147	21,077	..	..	..	20,930	147	21,077
(7D)—LEAVE AND PENSION ALLOWANCE (14 PER CENT. ON Rs 77,218)	..	..	..	3,09,379	15,042	3,24,421	3,09,379	+ 15,042	3,24,421
TOTAL ...	1,12,40,340	5,77,571	1,18,17,911	25,13,311	1,27,373	26,40,684	1,37,73,694	7,04,844	1,44,78,538

(a). Includes seigniorage amounting to Rs. 52,353 during the year and up to date Rs.

(b). Includes Rs 1,27,574 on account of fees for collection of Revenue.

(c). Share of account under Imperial excluded from 1914-15.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	Imperial.			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(III). TOOLS AND PLANT.									
(1).—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	1,717	—432	1,285	519	364	910	2,203	—87	2,196
(2).—PLANT AND MACHINERY	120	1,076	1,196	84	1,461	1,548	234	3,140	3,374
(3).—TOOLS ..	4,630	2,077	6,707	1,405	865	2,270	6,036	2,942	8,977
(4).—NAVIGATION ..	4,709	—10	4,699	2,407	443	2,850	7,110	433	7,549
(5).—CAMP EQUIPAGE ..	10,605	60	10,665	8,846	27	8,873	10,461	87	10,538
(6).—LIVE STOCK ..	...	...	...	...	...	...	...	...	...
(7).—OFFICE FURNITURE ..	1,935	379	2,314	986	325	1,311	2,021	703	3,024
(8).—REPAIRS AND CARRIAGE	1,35,264	20,867	1,56,071	60,615	6,803	67,418	1,95,909	27,610	2,23,519
MISCELLANEOUS. ...	3,10,100	—8,169	3,01,940	1,02,611	—602	1,01,891 } ÷ 18 }	4,12,020	(a) + 18 } —6,651 }	4,10,485 18 —6,654
TOTAL ..	4,68,110	16,084	4,84,194	1,77,130	9,680	1,86,810	6,46,849	26,777	6,73,626
(IV).—REFUNDS OF REVENUE.	78,867	651	79,518	2,696	3,970	6,666	81,463	4,624	86,087
(V).—PROFIT AND LOSS ..	372	...	372	85	...	85	457	...	457
(VI).—SUSPENSE ACCOUNT									
MISCELLANEOUS ADVANCE: ..	...	...	...	2,227	—2,227	...	2,227	—2,227	...
STOCK ..	...	...	...	14,489	3,544	18,032	14,488	3,544	18,032
STOCK SALES ..	...	...	...	30	—30	...	30	—30	...
STOCK PURCHASES ..	...	...	...	—48	48	...	—48	48	...
TOTAL SUSPENSE ACCOUNT ..	...	...	...	16,607	1,335	18,032	16,607	1,335	18,032
TOTAL ..	2,33,69,602	13,05,269	2,46,74,871	77,78,809	4,80,103	82,61,912	3,11,38,411	17,91,372	3,29,29,783
Indirect Charges debitable to Revenue Account as per count No. 6	15,80,067	82,535	16,62,602	...	...	...	15,80,067	82,535	16,62,602
TOTAL CHARGES ..	2,49,39,669	13,87,804	2,63,27,473	77,78,809	4,86,103	82,61,912	3,27,18,478	18,73,907	3,45,92,385
Balance, Not Revenue ..	4,89,75,661	20,70,626	5,10,46,287	—63,83,709	—4,09,007	—68,03,316	4,24,81,966	26,66,019	4,50,48,874
GRAND TOTAL ..	7,39,15,333	48,61,330	7,91,79,063	13,36,100	70,406	14,01,506	7,52,00,433	44,40,826	7,96,41,259

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16 ...	3,31,40,035	Net Revenue realized to end of 1915-16 ...	4,88,75,664
Do. for the year 1916-17 ...		Do. during 1916-17 ...	20,76,527
Total outlay to end of March 1917 = 2,43,31,680			
Less half outlay during 1916-17 = 18,274			
Mean capital at charge = 2,43,63,386			
Interest at 3 2084 per cent ...	8,03,114		
TOTAL ...	3,39,43,149		
Balance Revenue after defraying Interest charges	1,79,00,012		
TOTAL ...	5,18,52,161	TOTAL ...	5,18,52,161

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ...	3,20,099	...	3,20,099
Leave and Pension Allowances { Imperial ...	8,91,348	—294	8,91,054
{ Contribution ...	5,39,950	103	5,40,053
Total ...	17,51,397	—191	17,51,206
Deduct Leave and Pension allowances debited to Native States treated as direct charges and transferred to Account No. 2 of the canal.	5,39,950	103	5,40,053
Net debit to Imperial Canal ...	12,11,447	—294	12,11,153
REVENUE—			
Capitalization of abatement of Land Revenue ...	6,423	1,675	8,098
Leave and Pension Allowances { Imperial ...	15,73,644	80,880	16,54,524
{ Contribution ...	3,09,379	15,642	3,25,021
Total ...	18,89,446	82,557	19,72,003
Deduct Leave and Pension allowances debited to Native States treated as direct charges and transferred to Account No. 3 of the canal.	3,09,379	15,642	3,25,021
Net Imperial Revenue ...	15,80,067	82,535	16,62,602

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sirhind Canal Project.

No 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS			Total charges to date against-told and current sanctions	REMARKS
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total.	Charges to date	Amount of Sanctioned Estimate	Unspent Balance of Estimate		
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
IMPERIAL								
DIRECT CHARGES—								
Works ..	1,56,33,673	19,77,723	1,75,11,396	13,251	15,560	309	1,75,24,647	L. G. No 317 W.I., dated 20-1-17 = Rs 13,054.
Establishment ...	40,71,854	3,88,500	44,60,354	—7,375	4,657	11,002	46,50,636	L. G. No. 327 W.I. dated 19-1-17 = Rs 9,381 (a).
Tools and Plant ..	20,62,554	25,180	21,08,040	—183	310	502	21,07,857	L. G. No. 065 W.I., dated 12-7-16 = Rs 8051.
Suspense Balance ..	..	..	..	2,01,547	..	—2,03,687	2,03,687	30,466
Total ...	2,19,58,151	22,91,417	2,42,49,568	2,09,720	30,466	—1,78,914	2,44,80,178	
Less Receipts on Capital Account.	1,07,515	..	1,07,515	..	..	..	1,07,515	
Net Total ..	2,18,50,636	22,91,417	2,41,42,053	2,09,720	30,466	—1,78,914	2,43,81,663	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue.	3,15,270	1,820	3,20,090	..	..	..	3,20,090	
Leave and Pension Allowances.	3,37,694	54,390	3,92,084	—1,033	..	1,033	3,91,051	
Total ..	11,62,97	59,213	12,12,190	—1,033	..	1,033	12,11,157	
GRAND TOTAL ...	2,30,13,606	23,50,630	2,53,64,236	2,09,347	30,466	—1,77,881	2,55,02,511	L. G. No. 327 W.I., dated 19-1-17 = Rs 5,266 (b)
CONTRIBUTION								
DIRECT CHARGES—								
Works	91,69,025	4,43,782	96,12,807	1,709	1,400	3,098	98,14,116	
Establishment ...	32,66,601	1,01,110	33,67,711	2,580	802	—1,787	33,70,804	
Tools and Plant ..	11,95,990	5,712	12,01,702	—214	56	271	12,01,178	
Suspense Balance ...	..	..	..	..	..	..	..
Total ..	1,38,31,600	5,50,604	1,43,82,204	3,681	5,266	1,581	1,47,85,451	
Less Receipts on Capital Account.	68,603	15	68,618	..	..	..	68,618	
Net Total ..	1,37,63,010	5,50,589	1,43,13,599	3,681	5,266	1,581	1,43,17,280	
GRAND TOTAL ...	1,37,63,010	5,50,589	1,43,13,599	3,681	5,266	1,581	1,43,17,280	

OFFICE OF ACCOUNTANT-GENERAL

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project.

No 2 — CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated Construction Estimate closed on 31st March 1900.	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17	Total		
	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS—					
1.—HEAD WORKS—					
A.—Preliminary Expenses	5,710	..	5,710		
B.—Land	64,105	..	64,105		
C.—Works	50,47,622	3,06,244	53,53,866		
K.—Buildings	1,01,428	—3,527	7,901		
O.—Miscellaneous	6,084	..	6,084		
P.—Maintenance	1,68,784	..	1,68,784		
Total ..	53,83,733	3,02,717	56,86,450		
2.—MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	1,26,369	..	1,26,369		
B.—Land	2,15,279	..	2,15,279		
D.—Regulators	10,84,449	17,666	11,02,115		
E.—Falls and Weirs	6,18,284	..	6,18,284		
F. (1).—Other Cross Drainage Works ..	6,87,002	..	6,87,002		
G.—Bridges	10,60,607	..	10,60,607		
H.—Escapes	5,42,313	..	5,42,313		
J.—Mills	73,020	..	73,020		
K.—Buildings	17,04,404	1,678	17,06,082		
L.—Earthwork	75,22,756	8,755	75,26,511		
M.—Plantations	1,39,734	..	1,39,734		
O.—Miscellaneous	4,34,841	—32,417	4,02,424		
P.—Maintenance	1,05,047	..	1,05,047		
Total ..	1,43,14,105	—9,318	1,43,04,787		
—DISTRIBUTARIES—					
A.—Preliminary Expenses	1,34,668	3,912	1,38,580		
B.—Land	1,17,868	125	1,22,993		
C.—Works	17,76,831	63,677	18,40,507		
L.—Earthwork	26,65,825	43	27,14,807		
O.—Miscellaneous	4,76,221	2,920	4,79,141		
P.—Maintenance	34,70	..	34,670		
Total ..	52,06,083	1,24,515	53,30,598		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project.

N. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1900).	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17	Total.		
4. DRAINAGE AND PROTECTIVE WORKS—	Rs.	Rs.	Rs.	Rs.	Rs.
A.—Preliminary Expenses	10,771	..	10,771		
B.—Land	21,602	..	21,602		
C.—Works	38,271	9,175	47,446		
L.—Earthwork	1,75,856	2,850	1,78,706		
O.—Miscellaneous	37,413	137	37,550		
P.—Maintenance	1,162	..	1,162		
TOTAL ..	2,97,105	12,162	3,09,267	..	..
TOTAL I.—WORKS ..	2,92,11,026	4,3,076	2,60,41,102	2,62,17,146	2,45,70,030
II.—ESTABLISHMENT.					
5. DIRECTION	12,51,525	16,827	12,42,352		
6. EXECUTIVE	34,39,397	70,437	35,09,744		
7. MEDICAL	62,175	..	62,175		
8. SPECIAL SURVEY .. ..	..	..	..
8½. SPECIAL FIELD SURVEY .. ..	..	..	..
LEAVE AND PENSION ALLOWANCES .. ..	..	..	..
TOTAL ..	47,27,007	87,264	48,14,271	48,98,852	46,39,907
III.—TOOLS AND PLANT.					
9. NAVIGATION PLANT.. ..	..	..	..
10. MILL PLANT .. ..	..	..	..
11. RAILWAY PLANT AND ROLLING-STOCK	16,000	..	16,000		
12. MISCELLANEOUS	5,15,976	6,215	5,22,191		
13. REPAIRS AND CARRIAGE	1,02,325	..	1,02,325		
LOST BY EXCHANGE .. ..	..	..	..
TOTAL ..	6,33,304	6,215	6,39,519	7,27,365	6,40,125
IV.—SUSPENSE ACCOUNT.					
14. STOCK	5,03,578	—10,452	4,93,126		
15. STOCK PURCHASES	—34,736	20,659	—14,077		
15½. STOCK SALES	3,645	—3,775	73		
16. MISCELLANEOUS ADVANCES	3,324	7,634	10,958		
17. LONDON INVOICES .. ..	..	..	..
18. LONDON STORES .. ..	..	..	..
TOTAL ..	4,75,905	22,466	4,98,371	..	..
GRAND TOTAL ..	3,10,47,302	5,46,021	3,15,93,323	3,18,73,369	2,98,34,153
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.	14,403	..	14,403	14,403	14,403
NET TOTAL ..	3,10,32,899	5,46,021	3,15,78,920	3,18,58,966	2,98,19,749
APPORTIONMENT.					
40. IRRIGATION WORKS	3,10,16,189	5,46,021	3,15,61,510	..	..
42. M. W. AND NAVIGATION, IMPERIAL	14,410	..	14,410	..	..

(a). Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ...	12,29,04,017	86,03,040	13,15,07,053	I.A.—EXTENSIONS AND IMPROVEMENTS			
				1.—HEAD WORKS ...	14,86,476	2,36,716	17,23,192
Owners' rates on irrigated land.	58,13,828	..	58,13,828	2.—MAIN CANAL AND BRANCHES.	12,12,429	41,093	12,57,122
				3.—DISTRIBUTARIES ...	13,22,566	2,18,566	15,41,132
Sales of water	2,60,405	20,342	2,80,747	4.—DRAINAGE AND PROTECTIVE WORKS.	1,26,272	29,138	1,54,410
				TOTAL I. A. ...	41,46,743	5,29,112	46,75,856
Supply of Towns ..	13,477	5,050	18,527	I.B.—MAINTENANCE AND REPAIRS.			
				1.—HEAD WORKS	17,67,347	1,10,716	19,08,022
Receipts from plantations	1,63,729	16,070	1,80,799	2.—MAIN CANAL AND BRANCHES.	84,43,718	4,82,110	89,25,828
				3.—DISTRIBUTARIES ..	13,95,759	2,59,659	46,55,418
Receipts from other Canal produce.	81,038	180	81,218	4.—DRAINAGE WORKS ...	66,470	24,131	90,601
				TOTAL I. B. ..	1,47,93,236	8,76,616	1,56,79,842
				I.C.—COMPENSATION.	1,65,986	2,000	1,67,986
Water power	1,68,617	13,890	2,82,507	II.—ESTABLISHMENT.			(a)
				5.—DIRECTION AND ACCOUNT.	12,17,507	61,050	12,82,558
Rent of Buildings	2,00,700	12,520	2,13,220	6.—EXECUTIVE ESTABLISHMENT.	60,72,653	5,03,600	71,78,253
				7.—MEDICAL ESTABLISHMENT.	3,68,667	27,548	3,96,215
				7A.—REVENUE ESTABLISHMENT.	50,94,420	6,13,612	57,08,032
				TOTAL ...	1,27,54,147	11,07,222	1,74,49,065
Fines ...	31,914	1,791	33,705	III.—TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIAL.	1,092	513	2,475
Miscellaneous and other Receipts.	4,19,701	15,704	4,35,405	2.—PLANT AND MACHINERY.	230	15,044	15,043
				3.—TOOLS	5,766	7,893	13,648
				4.—NAVIGATION PLANT ...	613	317	1,630
				5.—CAMP EQUIPAGE ...	1,054	424	2,376
				6.—LIVE STOCK ...	114	286	399
				7.—OFFICE FURNITURE ...	2,028	2,329	4,427
				8.—MISCELLANEOUS ..	4,66,131	1,671	4,64,360
				9.—REPAIRS AND CARRIAGE	2,29,418	32,105	2,61,613
Share of Land Revenue collected in the Civil Department.	3,60,32,441	21,62,750	5,71,95,191	10.—MILL PLANT	5,809	..	5,809
				11.—RAILWAY PLANT AND ROLLING STOCK.	51,070	..	51,070
Interest on sale proceeds of waste land benefited.	10,5,551	9,05,213	69,13,395	TOTAL	7,70,160	48,170	8,18,359
				IV.—Refund of Revenue	1,17,753	341	1,18,095
				TOTAL	3,61,86,273	25,97,018	7,87,60,992
				Indirect charges debitable to Revenue Account as per Account No 5	22,91,012	1,54,100	21,16,118
				TOTAL CHARGES ...	3,84,76,286	27,29,123	4,11,96,110
				Balance, Net Revenue ...	13,67,75,311	1,41,10,322	15,08,45,666
TOTAL RECEIPTS	17,52,11,927	1,68,39,144	19,20,42,071	GRAND TOTAL	17,52,11,927	1,68,39,144	19,20,42,071

(a) Excludes share of acc units commencing from 1912-13.

(b) Includes Rs. 2,61,772 on account of Lamberth's fee for collection of Revenue.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Chenab Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
Total Interest charges to end of 1916-16 ..	Rs. 2,26,74,651	Net Revenue realized to end of 1916-16 ..	Rs. 13,07,35,341
Do. for the year 1916-17 ..		Do. during 1916-17 ..	1,41,10,820
Total outlay to end of 31st March 1917 = 3,15,78,320			
Less half the outlay during 1916-17 = 2,73,011			
Mean capital at charge .. = 3,13,05,909			
Interest at 3.2964 per cent. ..	10,31,968		
Total ..	2,37,00,619		
Balance Revenue after defraying Interest charges ..	12,71,30,042		
Total ..	15,08,45,661	Total ..	15,08,45,661

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	1,02,219		1,02,219
Leave and Pension Allowances ..	6,01,662	12,217	6,73,879
Total ..	7,63,881	12,217	7,76,098
REVENUE—			
Capitalization of abatement of Land Revenue ..	3,226	26	3,250
Leave and Pension Allowances ..	22,87,787	1,55,081	24,42,868
Total ..	22,91,012	1,55,109	24,46,118

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total	Charges to date.	Amount of Sanctions Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
DIRECT CHARGES—								
Works ..	1,99,23,202	46,40,858	1,46,70,000	10,71,012	10,77,086	6,06,044	2,56,41,102	G. I. 471 = 4,03,153 16-1-16 Do. 0-101 = 1,75,752 8-4-16
Establishment ..	36,10,000	9,83,901	10,23,967	1,00,301	2,74,826	84,581	48,14,271	Do. 621 = 1,72,701 16-3-16 Do. 603 I = 2,25,338 6-4-16
Tools and Plant ..	5,12,825	17,500	6,10,125	—608	87,240	87,540	6,39,519	Do. 1206 I = 1,48,007 21-2-16
Suspense Balances ..				4,98,431		—4,98,131	4,98,431	Do. 55 I = 90,164 16-1-15 L.G. 618 W.I. = 13,972 29-6-16
Total ..	2,41,50,003	66,78,659	2,06,34,102	17,69,171	20,39,211	2,80,040	3,15,93,323	Do. 0137 W.I. = 11,105 10-9-16 Do. 1008 W.I. = 2,348 7-3-16
Less Receipts on Capital Account.	14,403		11,433				14,403	Do. 1243 W.I. = 36,423 5-9-16
Net Total ..	2,41,41,000	66,78,659	2,06,19,740	17,69,171	20,39,211	2,80,040	3,15,78,920	G. I. 0050 I = 1,76,936 27-9-16 L.G. 2581 W.I. = 3,068 6-1-11-16 775 I
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue ..	2,050	9,810	1,01,500	360		—350	1,02,219	G. I. 150 = 3,12,114 8-11-16 L.G. 74 W.I. = 18,065 9-12-16
Leave and Pension Allowances ..	6,09,490	1,37,746	6,47,236	20,813		—20,643	6,73,879	Do. 334 W.I. = 9,336 7-12-16 Do. 73 W.I. = 751 8-12-16
Total ..	6,01,540	1,47,556	7,55,105	20,813		—20,993	7,76,098	G. I. 110 I = 2,03,391 20-2-17
GRAND TOTAL ..	2,17,43,230	68,25,615	3,05,68,845	17,86,104	20,39,211	2,53,017	3,23,55,018	Total .. 20,39,211

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Sutlej Inundation Canal Project.

No. (2)—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March)	Expenditure against closed Estimate.
	Imperial.				
	Previous	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
I.—WORKS.					
2. MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	3,849	...	3,849		
B.—Land	43,848	...	43,848		
D.—Regulators	30,512	...	30,512		
E.—Falls and Weirs	69,015	...	69,015		
G.—Bridges	52,492	...	52,492		
K.—Buildings	2,20,802	581	2,20,883		
L.—Earthwork	5,62,555	...	5,62,555		
O.—Miscellaneous	5,112	...	5,112		
P.—Maintenance	2,457	..	2,457		
TOTAL	9,80,142	581	9,80,723		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	3,812	...	3,812		
B.—Land	45,782	...	45,782		
C.—Works	82,930	...	82,930		
L.—Earthwork	2,35,365	..	2,35,365		
O.—Miscellaneous	22,941	...	22,941		
P.—Maintenance	4,652	...	4,652		
TOTAL	3,05,512	...	3,05,512		
TOTAL I.—WORKS	13,75,654	581	13,76,235	13,76,235	13,76,235
II.—ESTABLISHMENT.					
5. DIRECTION	(a) 54,888	21	54,909		
6. EXECUTIVE	2,37,272	78	2,37,350		
7. MEDICAL	2,953	...	2,953		
TOTAL	2,95,113	99	2,95,212	2,95,212	2,95,212
III.—TOOLS AND PLANT.					
12. MISCELLANEOUS	24,566	7	24,573		
13. REPAIRS AND CARRIAGE	114	...	114		
TOTAL	24,680	7	24,687	24,687	24,687
IV.—SUSPENSE ACCOUNT.					
14. STOCK	21,982	680	22,662		
15. STOCK SALES	1	2	3		
16. MISCELLANEOUS ADVANCES	80	82	162		
TOTAL	22,063	764	22,827		
GRAND TOTAL	17,17,510	1,451	17,18,961	16,96,134	16,96,134
V.—LESS RECEIPTS ON CAPITAL ACCOUNT	150	...	150	150	150
NET TOTAL	17,17,354	1,451	17,18,805	16,95,978	16,95,978
APPORTIONMENT.					
49. IRRIGATION WORKS	9,27,447	1,451	9,28,898		
43. M. W. AND NAVIGATION, PROVINCIAL	7,89,907	...	7,89,907		

(a). Share of accounts excluded from 1912-13.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Sutlej Inundation Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rate ...	84,16,112	3,78,069	87,93,181	I. A.—EXTENSIONS AND IMPROVEMENTS.			
Owners' rates on irrigated land.	17,732	..	17,732	2. MAIN CANAL AND BRANCHES.	4,20,653	4,408	4,24,961
Sales of water ...	3,038	70	3,109	3.—DI TRIBUTARIES ...	1,74,432	9,520	1,83,952
Receipts from Plantations	1,24,716	5,078	1,29,794	4.—DRAINAGE AND PROTECTIVE WORKS.	1,158	..	1,158
Receipts from other Canal produce.	76,280	312	76,592	TOTAL I. A.	5,96,143	13,928	6,10,071
Rent of Buildings ...	5,989	1,264	6,957	I. B. MAINTENANCE AND REPAIRS.			
Fines ...	2,25,085	60	2,25,145	1.—HEAD WORKS ...	10,379	..	10,379
Miscellaneous and other Receipts.	23,436	8,160	31,596	2.—MAIN CANAL AND BRANCHES.	17,68,593	2,09,214	19,77,807
Contribution ..	22,433	..	22,433	3.—DISTRIBUTARIES ..	8,79,220	46,290	9,27,510
Total ...	89,12,022	3,93,036	93,05,058	TOTAL I. B. ...	50,53,201	2,57,504	53,10,705
Share of Land Revenue collected in the Civil Department.	74,01,006	2,10,100	76,11,106	I. C.—COMPENSATION	8,695	..	8,695
Interest on sale-proceeds of waste lands benefited.	84,032	6,908	90,940	II.—ESTABLISHMENT.			
Total ..	76,78,638	2,16,986	78,95,624	5.—DIRECTION AND ACCOUNT.	(a) 6,95,341	12,798	7,08,139
				6.—EXECUTIVE ESTABLISHMENT.	22,08,762	76,213	22,84,975
				7.—MEDICAL DO. ..	39,039	1,806	40,845
				7A.—REVENUE DO. ..	13,22,400	6156,800	13,78,272
				TOTAL ..	42,65,000	1,47,623	44,12,623
				III. TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS.	222	103	325
				2.—PLANTS AND MACHINERY.	..	..	..
				3.—TOOLS ..	848	223	1,071
				4.—NAVIGATION PLANT ..	916	..	916
				5.—CAMP EQUIPAGE ..	40	35	75
				6.—LIVE STOCK ..	..	..	..
				7.—OFFICE FURNITURE ..	694	—47	647
				8.—REPAIRS AND CARRIAGE	25,740	1,000	26,740
				MISCELLANEOUS ..	40,210	—7	40,203
				TOTAL ..	74,562	1,076	75,638
				IV.—REFUNDS OF REVENUE.	25,591	210	25,801
				V PROFIT AND LOSS	379	..	379
				TOTAL ..	1,00,29,302	1,20,911	1,01,50,213
				Indirect charges debitable to Revenue Accounts as per Account No 6.	6,00,300	20,607	6,20,907
				TOTAL CHARGES ..	1,12,95,602	4,41,606	1,17,37,208
				Balance, Not Revenue ..	51,97,956	1,87,396	53,85,352
TOTAL RECEIPTS ..	1,04,91,560	6,00,004	1,10,91,564	GRAND TOTAL ..	1,04,91,560	6,00,004	1,10,91,564

(a). Share of accounts excluded from 1912-13.

(b). Includes Rs. 10,288 on account of fees for collection of Revenue.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Sutlej Inundation Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16 ..	21,06,531	Net Revenue realized to end of 1916-16 ..	51,98,968
Do. for the year 1916-17.		Do. during 1916-17 ..	1,87,396
Total outlay to 31st March 1917=Rs. 17,18,805.			
Less, half outlay during 1916-17 ..	726		
Mean capital at charge ..	17,18,079.		
Interest at 3-2064 per cent ..	56,634		
Total Interest charges ..	22,23,165		
Balance Revenue after defraying Interest charges ..	31,40,189		
Total ..	53,63,354	Total ..	53,63,354

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	58,032	...	58,032
Leave and Pension Allowances ...	42,994	14	43,008
Total ...	1,01,027	14	1,01,041
REVENUE—			
Capitalization abatement of Land Revenue ..	10,848	...	10,848
Leave and Pension Allowances ...	6,55,062	20,667	6,76,319
Total ...	6,66,300	20,687	6,86,987

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
DIRECT CHARGES—							
Works ...	10,07,761	3,68,474	13,76,235	...	...	—	13,76,235
Establishment ...	2,24,759	70,453	2,95,212	...	...	...	2,95,212
Tools and Plant ...	20,068	4,610	24,687	...	...	...	24,687
Suspense Balance ..	...	...	...	22,827	...	—22,827	22,827
Total ...	12,52,588	4,43,536	16,96,124	22,827	...	—22,827	17,18,805
Less Receipts on Capital Account ..	150	...	150	...	...	...	150
Net Total ..	12,52,438	4,43,536	16,95,974	22,827	...	—22,827	17,18,805
INDIRECT CHARGES—							
Capitalized abatement of Land Revenue ..	58,031	4,352	58,033	...	...	...	58,033
Leave and Pension Allowances ..	33,148	9,860	43,008	...	...	...	43,008
Total ...	86,920	24,212	1,01,041	...	...	...	1,01,041
GRAND TOTAL ...	13,30,361	4,57,296	17,97,019	22,827	...	—22,827	18,19,846

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Siddhni Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEAD OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1892.)	Expenditure against closed Estimates
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
I.—WORKS.					
HEAD WORKS—					
A.—Preliminary Expenses	754	...	754		
B.—Land	235	...	235		
C.—Works	2,46,260	...	2,46,260		
K.—Buildings	11,646	...	11,646		
O.—Miscellaneous	391	...	391		
Total	2,59,286	...	2,59,286		
2.—MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	4,014	...	4,014		
B.—Land	22,422	...	22,422		
D.—Regulators	40,568	...	40,568		
G.—Bridges	44,980	...	44,980		
K.—Buildings	80,789	...	80,789		
L.—Earthwork	2,58,996	...	2,58,996		
M.—Plantations	821	...	821		
O.—Miscellaneous	427	...	427		
P.—Maintenance	5,394	...	5,394		
TOTAL	4,07,411	...	4,07,411		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	3,965	...	3,965		
B.—Land	11,388	...	11,387		
G.—Works	66,622	...	66,622		
L.—Earthwork	1,36,784	...	1,36,784		
O.—Miscellaneous	165	...	165		
TOTAL	2,18,923	...	2,18,923		

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sidhnai Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEAD OF ACCOUNT	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1892.)	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.		Rs.	Rs.
4. DRAINAGE AND PROTECTIVE WORKS—					
A.—Preliminary Expenses	36	...	36		
TOTAL	36	...	36		
TOTAL I.—WORKS	9,45,656	...	9,45,656	9,45,656	9,45,656
II.—ESTABLISHMENT.					
5. DIRECTION	49,445	57	(a) 49,502		
6. EXECUTIVE	2,14,741	...	2,14,741		
7. MEDICAL					
TOTAL	2,64,186	57	2,64,243	2,64,243	2,64,243
III.—TOOLS AND PLANT					
12. MISCELLANEOUS	35,039	...	35,039		
13. REPAIRS AND CARRIAGE					
TOTAL	35,039	...	35,039	35,039	35,039
IV.—SUSPENSE ACCOUNT					
14. STOCK PURCHASES	102	—1,104	—1,210		
15. STOCK SALES	35	690	725		
16. MISCELLANEOUS ADVANCES	185	678	863		
17. STOCK	42,908	4,207	47,115		
TOTAL	43,049	4,461	47,511		
GRAND TOTAL	12,90,664	4,521	12,95,185	13,47,938	13,47,938
V.—Less RECEIPTS ON CAPITAL ACCOUNT	224	...	224	224	224
Net Total	12,90,440	4,521	12,94,961	13,47,714	13,47,714
APPORTIONMENT.					
49.—IRRIGATION WORKS	12,72,135	4,521	12,76,656		
43.—M. W. AND NAVIGATION	18,306	...	18,306		0

(a). Excluding share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sikhni Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous	1916-17.	Total		Previous	1916-17.	Total
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ...	90,30,004	4,54,164	94,84,708	I A—EXTENSIONS AND IMPROVEMENTS			
				1.—HEAD WORKS ..	29,400	1,879	31,339
				2.—MAIN CANAL AND BRANCHES.	1,72,502	4,021	1,76,523
				3.—DISTRIBUTARIES ..	75,711	5,106	80,817
Sales of water ...	42,631	2,167	44,788	4.—DRAINAGE AND PROTECTIVE WORKS	508	...	508
				TOTAL I A	2,78,181	11,006	2,89,187
				I B—MAINTENANCE AND REPAIRS			
Receipts from Plantations	5,726	257	5,983	1.—HEAD WORKS ...	3,31,308	9,413	3,40,721
				2.—MAIN CANAL AND BRANCHES	8,08,268	24,382	8,32,650
Receipts from other Canal produce.	8,786	257	9,043	3.—DISTRIBUTARIES	5,18,611	10,578	5,29,189
				TOTAL I B	17,48,087	54,373	18,02,460
				I C—COMPENSATION	231	...	231
Rent of buildings ...	18,785	242	19,027	11—ESTABLISHMENT			
				5.—DIRECTOR AND ACCOUNT	(a) 1,45,477	4,831	1,50,308
				6.—EXECUTIVE ESTABLISHMENT	7,50,659	30,376	8,25,067
Fines ...	7,321	345	7,666	7.—MEDICAL ESTABLISHMENT	17,407	1,742	19,149
				8.—REVENUE ESTABLISHMENT	0,00,737	33,117	6,33,850
Miscellaneous and other Receipts	13,693	1,367	15,060	TOTAL ..	15,50,210	79,084	16,29,274
				111 TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	298	286	584
Total	91,27,406	4,54,770	95,82,176	2.—PLANT AND MACHINERY	218	73	291
				3.—TOOLS ..	...	120	120
				4.—NAVIGATION PLANT	101	373	1,036
				5.—CAMP EQUIPAGE ...	...	221	221
				6.—LIVY STOCK ...	...	...	...
Share of Land Revenue collected in the Civil Department.	16,16,175	1,10,461	17,28,936	7.—OFFICE FURNITURE ..	280	188	468
				8.—HORSES AND CARRIAGE	40,162	2,637	32,899
				12.—MISCELLANEOUS ...	21,844	—600	21,244
				TOTAL ...	53,263	3,500	56,763
Interest on sale-proceeds of waste lands benefited	3,21,761	20,863	3,42,624	IV.—REFUNDS OF REVENUE	1,506	371	1,877
				TOTAL ..	30,31,568	1,48,317	31,79,885
				Indirect Charges debit to Revenue Account as per Account No. 6.	2,17,314	11,069	2,28,383
Total ...	19,40,239	1,31,344	20,71,583	TOTAL CHARGES ...	38,48,882	1,59,386	40,08,268
				Balance, Net Revenue ...	72,18,863	1,30,737	73,49,600
TOTAL RECEIPTS ...	1,10,67,735	5,86,123	1,16,53,858	GRAND TOTAL ..	1,10,87,728	5,86,123	1,16,87,858

(a). Share of Account excluded from 1912-13.

(b). Includes Rs 5,440 on account of fees for collection of Revenue

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Sidhnai Canal Project.

No 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16 ...	12,85,333	Net Revenue realized to end of 1916-16 ...	72,18,552
Do for the year 1916-17 ...		Do during 1916-17 ...	4,30,737
Total outlay up to 31st March 1917 = Rs. 12,95,264			
Less half outlay during 1916-17 " 2,200			
Mean Capital at charge " 12,93 006			
Interest at 3'296½ per cent ...	42,023		
Total ...	13,27,956		
Balance Revenue after defraying Interest charges ...	63,21,634		
Total ...	76,49,500	Total ...	76,49,500

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ...	3,328	...	3,328
Leave and Pension Allowances ...	36,899	8	36,897
Total ...	40,217	8	40,225
REVENUE—			
Capitalization of abatement of Land Revenue ...	285	...	285
Leave and Pension Allowances ...	2,17,029	11,069	2,28,098
Total ...	2,17,314	11,069	2,28,383
GRAND TOTAL ...	2,57,531	11,077	2,68,608

No 6—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTIONS			CURRENT SANCTIONS.			Total charges to date against old and current sanctions	REMARKS.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total	Charges to date.	Amount of Sanctioned Estimate	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works	7,01,204	2,44,452	9,45,656				9,45,656	
Establishment	2,04,893	50,140	2,64,243				2,64,243	
Tools and Plant	22,253	15,786	38,039				38,039	
Suspense Balance				47,551		—47,551	47,551	
TOTAL	9,28,250	3,19,678	12,47,938	47,551		—47,551	12,95,480	
Less Receipts on Capital Account.	224		224				224	
NET TOTAL	9,28,036	3,19,678	12,47,714	47,551		—47,551	12,95,265	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue—	2,994	334	3,328				3,328	
Leave and Pension Allowances.	28,576	8,321	36,897				36,897	
TOTAL	31,570	8,655	40,225				40,225	
GRAND TOTAL	9,59,606	3,28,333	12,87,939	47,551		—47,551	13,35,490	

IRRIGATION BRANCH.

OFFICE OF ACCOUNTANT-GENERAL,

PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Jhelum Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated.	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS.					
1.—HEAD WORKS—					
A.—Preliminary Expenses	12,610	...	12,610	...	
B.—Land	31,772	...	31,772	...	
C.—Works	29,70,571	—210	29,70,361	..	
K.—Buildings	1,28,978	2,111	1,31,089	...	
O.—Miscellaneous	19,273	.	19,273	...	
P.—Maintenance	28,020	..	28,020	..	
TOTAL ..	31,91,233	1,901	31,93,134	..	
2.—MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	93,230	203	93,623	...	
B.—Land	2,49,781	..	2,49,781	...	
D.—Regulators	2,71,286	..	2,71,286	...	
E.—Falls and Weirs	2,34,947	..	2,34,947	..	
F.—(1)—Other Cross Drainage Works ..	1,20,258	...	1,20,258	...	
G.—Bridges	6,91,284	...	6,91,284	..	
H.—Escapes	4,78,540	...	4,78,540	...	
J.—Mills	1,07,620	...	1,07,620	...	
K.—Buildings	10,30,547	7,871	10,38,418	..	
L.—Earthwork	22,93,007	.	22,93,007	...	
M.—Plantations	86,170	...	86,170	...	
O.—Miscellaneous	46,624	833	46,457	...	
P.—Maintenance	32,373	...	32,373	...	
TOTAL ..	57,34,676	8,097	57,43,673	...	
3.—DISTRIBUTARIES—					
A.—Preliminary Expense	61,101	...	61,101	...	
B.—Land	1,40,700	...	1,40,700	...	
C.—Works	15,26,458	9,860	15,36,318	...	
L.—Earthwork	13,37,876	1,490	13,39,366	...	
O.—Miscellaneous	5,69,711	—2,171	5,67,540	...	
P.—Maintenance	4,063	...	4,063	...	
TOTAL ..	30,36,517	9,179	30,45,696	..	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Jhelum Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated.	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs. °	Rs.	Rs.	Rs.	Rs.
4.—DRAINAGE AND PROTECTIVE WORKS—					
A.—Preliminary Expenses	21,356	..	21,356	..	
B.—Land	13,638	..	13,638	..	
C.—Works	2,884	..	2,884	..	
L.—Earthwork	52,353	..	52,353	..	
O.—Miscellaneous	1,759	..	1,759	..	
TOTAL ..	91,990	..	91,990	..	
TOTAL I.—WORKS ..	1,26,54,418	20,077	1,26,74,495	1,48,95,807	
II.—ESTABLISHMENT.					
5.—DIRECTION	6,01,514	897	6,02,411	..	
6.—EXECUTIVE	15,13,366	3,360	15,16,726	..	
7.—MEDICAL	29,633	..	29,633	..	
8.—SPECIAL SURVEY	42,062	..	42,062	..	
TOTAL ..	21,86,575	4,257	21,90,832	22,30,200	
III.—TOOLS AND PLANT.					
9.—NAVIGATION PLANT	50	..	50	..	
12.—MISCELLANEOUS	3,00,041	299	3,00,340	..	
13.—REPAIRS AND CARRIAGE	62,566	..	62,566	..	
TOTAL ..	3,62,657	299	3,62,956	4,22,715	
IV.—SUSPENSE ACCOUNT.					
14.—STOCK	4,12,653	—31,745	3,80,908	..	
15.—STOCK PURCHASES	—2,218	—1,423	—3,641	..	
15a.—STOCK SALES	5	52	57	..	
16.—MISCELLANEOUS ADVANCES	3,115	—2,590	525	..	
18.—LONDON STORES .. .. .	..	..	..	..
TOTAL ..	4,13,485	—35,706	3,77,779	2,00,000	
GRAND TOTAL ..	1,5,17,103	—11,047	1,56,06,056	1,84,55,782	
V.—LESS RECEIPTS ON CAPITAL ACCOUNT	40,162	22,147	62,309	60,000	
NET TOTAL ..	1,55,76,641	—33,194	1,55,43,447	1,83,95,782	
APPORTIONMENT.					
49.—IRRIGATION WORKS	1,55,76,641	—33,194	1,55,43,447	..	

Mo. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

(a) Includes Rs. 84,894 on account of fees for collection of Revenue.
(b) Excludes Share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Jhelum Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16 ...	78,60,793	Net Revenue realised to end of 1915-16 ...	2,17,27,614
Do. for the year 1916-17 ..		Do. during 1916-17 ..	27,64,631
Total outlay to end of 31st March 1917 ...	1,55,43,447		
Deduct half outlay during 1916-17 ..	—16,507		
Mean Capital at charge ..	1,55,60,044		
Interest at 3.2964 per cent ...	5,12,921		
Total ..	83,63,714		
Balance Revenue after defraying Interest charges ..	1,71,18,331		
Total ..	2,54,82,045	Total ..	2,54,82,045

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	83,000	...	83,000
Leave and Pension Allowances ..	3,06,121	600	3,06,721
Total ..	3,89,121	600	3,89,721
REVENUE—			
Capitalization of abatement of Land Revenue ...	875	..	875
Leave and Pension Allowances ..	6,52,132	70,142	7,22,274
Total ..	6,53,007	70,142	7,23,149
GRAND TOTAL	10,42,128	70,742	11,13,170

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total	Charges to date	Amount of sanctioned Estimate.	Unspent Balance of Estimate.		
				Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works ..				1,26,74,493	1,48,95,807	22,21,314	1,26,74,493	
Establishment ..				21,90,858	20,30,260	7,39,402	21,90,858	
Tools and Plant ..				3,62,956	4,29,716	66,759	3,62,956	
Surplus Balance ..				3,77,749	2,00,000	—1,77,749	3,77,749	
Total ..				1,56,06,056	1,84,55,782	28,49,726	1,56,06,056	
Less Receipts on Capital Account ..				62,609	60,000	—2,609	62,609	
Net Total ..				1,55,43,447	1,83,95,782	28,52,335	1,55,43,447	
IRRIGATION CHARGES—								
Capitalized abatement of Land Revenue ..				83,000	1,57,863	74,863	83,000	
Leave and Pension Allowances ..				3,06,721	4,10,348	1,03,622	3,06,721	
Total ..				3,89,721	5,68,200	1,78,485	3,89,721	
GRAND TOTAL ..				1,59,33,166	1,89,63,982	30,30,820	1,59,33,166	

(a). Includes Rs. 2,05,933 actual direct expenditure on Shahpur Imperial Canal.

(b). Includes Rs. 998 on account of indirect expenditure on Shahpur Imperial Canal.

Both the above will be transferred to the debit of this project on completion of the Shahpur Branch of the Lower Jhelum Canal, vide Secretary, P. W. D., Irrigation Branch, Punjab's No. 656-A. I., dated 7th June 1905.

(c). Revised project estimate sanctioned in Secretary of State's Despatch No. 5, dated 10th February 1905.

OFFICE OF ACCOUNTANT-GENERAL

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Indus Inundation Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1904)	Expenditure against closed Estimates.
	Imperial.				
	Previous	1916-17.	Total		
	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS.					
2. MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	9,321	..	9,321		
B.—Land	48,157	4,000	52,157		
D.—Regulators	77,205	..	77,205		
E.—Falls and Weirs	34,956	..	34,956		
F.—River and Hill Torrent Works ..	402	..	402		
G.—Bridges	48,071	..	48,071		
H.—Escapes	14,031	..	14,031		
K.—Buildings	1,49,097	..	1,49,097		
L.—Earthwork	13,52,682	..	13,52,682		
O.—Miscellaneous	24,574	14	24,588		
Total	17,58,428	4,020	17,62,448		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	3,987	..	3,987		
B.—Land	38,157	..	38,157		
C.—Works	64,603	8,163	72,766		
L.—Earthwork	1,00,316	80	1,00,405		
O.—Miscellaneous	8,530	..	8,530		
Total	3,05,593	8,252	3,13,851		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Indus Inundation Canals Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated (Construction Estimate closed on 31st March 1893).	Expenditure against closed Estimates.
	Imperial.				
	Previous	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
4. DRAINAGE AND PROTECTIVE WORKS—					
K.—Buildings	1,613	..	1,613		
L.—Earthwork	3,13,076	..	3,43,076		
TOTAL ..	3,14,691	..	3,44,691		
TOTAL I—WORKS ..	24,06,711	12,272	24,20,983	24,16,157	22,87,678
II.—ESTABLISHMENT					
5. DIRECTION AND ACCOUNT	1,11,726	119	1,11,845		
6. EXECUTIVE	2,46,501	44	2,46,545		
7. MEDICAL	507	..	507		
TOTAL ..	1,58,734	163	1,58,897	1,58,735	1,58,838
III.—TOOLS AND PLANT.					
12. MISCELLANEOUS	25,033	30	25,063		
13. REPAIRS AND CARRIAGE .. .. .	..	..	..
TOTAL ..	25,033	30	25,063	25,000	23,421
IV.—SUPPLY ACCOUNT.					
14. STOCK	14,935	—,413	14,522		
15. MISCELLANEOUS ADVANCES	14	—,120	—,106		
16. LONDON STORES .. .. .	..	..	..
TOTAL ..	14,949	—,533	14,416		
GRAND TOTAL ..	29,6,976	8,610	29,75,586	29,00,924	27,46,637
V. Less RECEIPTS ON CAPITAL ACCOUNT					
NET TOTAL ..	1,4,616		1,4,616	1,4,616	13,816
	28,03,360	8,610	28,11,970	27,86,308	26,32,821
APPORTIONMENT.					
40. IRRIGATION WORKS	21,70,847	8,616	21,79,463		
43. M. W. AND NAVIGATION, IMPERIAL	7,22,513	..	7,22,513		

(a) Share of account excluded from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Indus Inundation Canals Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
				(I.A.)—EXPENSIONS AND IMPROVEMENTS.			
Occupiers' rates ..	21,00,364	1,92,643	23,03,007	1.—MAIN CANAL AND BRANCHES.	10,22,460	22,532	10,44,992
Owners' rates on irrigated land.	92,189	..	92,189	2.—DISTRIBUTARIES ..	69,503	3,351	72,854
				3.—DRAINAGE AND PROTECTIVE WORKS.	8,92,886	89,137	9,82,023
				TOTAL I. A. ..	19,44,849	1,15,020	21,00,249
Sales of water ...	5,780	220	6,000	(I.B.)—MAINTENANCE AND REPAIRS.			
Supply of towns ..	1,418	..	1,418	1.—MAIN CANAL AND BRANCHES.	68,16,561	99,360	69,15,921
				2.—DISTRIBUTARIES ..	2,96,397	17,705	3,14,102
				3.—DRAINAGE WORKS ..	19,34,822	20,281	19,55,103
				TOTAL I. B. ..	70,47,780	1,17,346	71,65,126
Receipts of plantations	1,26,332	2,327	1,28,659	(I.C.)—COMPENSATION	6,171	25	6,196
Govt. share of Dhundi Produce.	10,50,787	50,511	11,07,498	11.—ESTABLISHMENT.	(a) 8,14,983	12,040	8,27,023
				12.—EXECUTIVE ESTABLISHMENT.	24,42,680	84,161	25,26,841
Receipts from other Canal Produce.	4,376	25	4,401	13.—MEDICAL ESTABLISHMENT.	30,722	1,425	32,147
Rent of Buildings ..				14.—REVENUE ESTABLISHMENT.	6,62,511	(b) 27,071	6,89,582
Fines ..	64,442	2,901	67,343	15.—PLANTATION ESTABLISHMENT.	5,916	..	5,916
Miscellaneous and other receipts.				TOTAL ..	39,56,842	1,24,718	40,81,560
Total ..	35,15,654	2,54,800	37,70,454	(II)—TOOLS AND PLANT			
Contribution of Silt Clearance.	4,16,934	..	4,16,934	1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	61	100	161
Clearance Rate ..	12,79,605	..	12,79,605	2.—PLANTS & MACHINERY	..	..	..
Total ..	12,79,605	..	12,79,605	3.—TOOLS.	219	—0	219
				4.—NAVIGATION PLANT	243	..	243
				5.—CAMP EQUIPAGE	211	..	211
				6.—LIVE STOCK ..	..	..	..
				7.—OFFICE FURNITURE	294	306	600
				8.—REPAIRS & CARRIAGE	37,109	1,154	38,263
				MISCELLANEOUS ..	37,474	—30	37,444
				TOTAL ..	72,171	1,616	73,787
Share of Land Revenue collected in the Civil Department.	1,01,89,185	2,73,468	1,04,62,653	(IV)—REFUNDS OF REVENUE.	4,871	..	4,871
Interest on sale proceeds of waste lands benefited	40	2	42	(V)—PROFIT AND LOSS	1,599	..	1,599
Total ..	1,04,98,195	2,73,470	1,07,71,665	TOTAL ..	1,39,74,023	3,78,910	1,43,52,933
				Indirect Charges debitable to Revenue Account as per Account No. 5.	6,58,512	10,685	6,69,197
				TOTAL CHARGES ..	1,46,32,535	3,89,595	1,50,22,130
TOTAL RECEIPTS ..	1,57,32,388	5,28,700	1,62,61,088	Balance Net Revenue	11,09,823	1,20,707	12,30,530
				GRAND TOTAL ..	1,57,32,188	5,28,300	1,62,60,488

(a) Share of account excluded from 1912-13.

(b) Includes Rs. 6,701 on account of fees for collection of Revenue.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Indus Inundation Canals Project.

No. 4.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16	19,40,689	Net Revenue realized to end of 1915-16	11,99,822
		Do. during 1916-17.. ..	1,29,708
Total outlay to 31st March 1917 Rs. 29,01,978		Balance net Interest charges.. ..	7,06,680
Less half outlay during 1916-17 4,308			
Mean capital at charge 28,97,668			
Interest at 3.2964 per cent	95,510		
Total	20,36,208	Total	20,36,208

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1 16-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue	8,307	250	8,557
Leave and Pension Allowances	71,639	79	71,718
Total	79,946	429	80,375
REVENUE—			
Capitalization of abatement of Land Revenue	23,408	2,225	25,633
Leave and Pension Allowances	6,35,134	17,460	6,52,594
	6,58,542	19,685	6,78,227
GRAND TOTAL	7,38,488	20,114	7,58,602

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate	Expenditure against open canal sanctions	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works	6,63,648	16,24,070	22,87,718	1,33,310	1,28,708	—4,601	24,20,988	W I. No. Date. Rs. 01359 15-9-15 21,848 1025 7-10-15 1,82,553
Establishment	87,204	3,48,134	4,35,338	24,611	24,017	—40	4,58,949	
Tools and Plant	7	22,751	23,421	1,071	1,075	+24	23,072	
Suspense Balance				60,583		—60,583	61,587	
TOTAL	7,51,522	19,94,911	27,46,433	2,19,155	1,54,401	—61,754	29,65,792	
Less Receipts on Capital Account	63,610		63,610				63,610	1,54,401
NET TOTAL	6,87,906	19,91,915	26,82,821	2,19,155	1,54,401	—61,754	29,01,977	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue	57	8,600	8,657				8,657	
Leave and Pension Allowances	10,672	48,789	59,461	3,307		—3,307	71,718	
TOTAL	10,729	57,389	68,118	3,307		—3,307	80,375	
GRAND TOTAL	7,07,635	20,49,304	27,56,939	2,22,462	1,54,401	—65,061	29,82,351	

IRRIGATION BRANCH.

PUNJAB PROVINCE

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project.

No 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated
	Imperial			
	Previous	1916 17	Total	
I.—WORKS.				
1. HEAD WORKS—	Rs.	Rs.	Rs.	
A.—Preliminary Expenses	8,284	..	8,284	
B.—Land	87,095	58	88,053	
C.—Works	67,04,510	— 5,444	66,99,070	
K.—Buildings	1,89,587	852	1,90,439	
O.—Miscellaneous	18,598	13,145	31,743	
P.—Maintenance	1,35,343	..	1,35,343	
Q.—Losses of Stock	5,715	1,602	7,317	
TOTAL	71,60,041	10,208	71,60,249	
2. MAIN CANAL AND BRANCHES—				
A.—Preliminary Expenses	76,233	805	77,038	
B.—Land	9,68,171	3,618	9,71,789	
D.—Regulators	6,88,914	10,818	6,99,732	
E.—Falls and Weirs	9,50,027	..	9,50,027	
F. (1)—Other Cross Drainage Works ..	22,60,422	3,533	22,72,955	
G.—Bridges	15,71,431	2,773	15,74,204	
K.—Buildings	8,33,360	15,505	8,48,875	
L.—Earthwork	69,43,275	5,552	69,48,827	
M.—Plantations	39,233	3,398	42,631	
O.—Miscellaneous	66,300	214	66,514	
P.—Maintenance	3,19,783	894	3,20,677	
Q.—Losses of Stock	7,211	4,574	11,785	
TOTAL	1,47,73,360	51,085	1,47,85,054	
3. DISTRIBUTARIES—				
A.—Preliminary Expenses	1,36,608	5,578	1,42,186	
B.—Land	54,1,935	80,325	6,22,260	
C.—Works	12,41,812	1,80,134	15,01,946	
L.—Earthwork	17,21,315	1,10,192	18,31,508	
O.—Miscellaneous	2,16,785	89,155	3,05,940	
P.—Maintenance	14,308	..	14,308	
TOTAL	39,72,764	4,45,884	44,18,148	

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated.	
	Imperial.				
	Previous	1916-17.	Total		
	Rs.	Rs.	Rs.		
4 DRAINAGE AND PROTECTIVE WORKS—					
A.—Preliminary Expenses ...	0,174	1,102	7,276		
B.—Land	1,02,116	1,705	1,03,821		
C.—Works	37,481	578	38,059		
L.—Earthwork	9,23,090	1,06,340	10,29,430		
O.—Miscellaneous ...	17,062	93	17,155		
TOTAL ..	10,55,933	1,09,918	11,65,741		
TOTAL I.—WORKS ..	2,69,42,017	6,17,095	2,75,59,192	2,92,05,491	
II.—ESTABLISHMENT.					
5. DIRECTION	10,57,989	31,724	10,89,713		
6. EXECUTIVE	29,66,384	2,11,263	31,77,647		
7. MEDICAL	1,26,478	10,812	1,37,290		
8. SPECIAL SURVEY	62,573	..	62,573		
8½. SPECIAL FIELD SURVEY ..	110	...	110		
LEAVE AND PENSION ALLOWANCES	...	...	...
TOTAL ..	42,31,531	2,53,799	44,87,333	44,41,668	
III. TOOLS AND PLANT.					
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	272	385	657		
2. PLANT AND MACHINERY ..	8,635	..	8,635		
3. TOOLS	1,323	917	2,240		
4. NAVIGATION PLANT	606	326	932		
5. CAMP EQUIPAGE	28	7	35		
6. LIVE STOCK	00	474	574		
7. OFFICE FURNITURE	975	885	1,860		
8. REPAIRS AND CARRIAGE ..	1,21,020	3,974	1,25,894		
11 RAILWAY PLANT AND ROLLING STOCK	8,55,370	..	8,55,370		
12 MISCELLANEOUS	6,95,465	4,09,480	11,03,951		
TOTAL ..	16,81,091	8,05,444	21,90,148	19,02,424	
IV.—SUSPENSE ACCOUNT.					
14. STOCK	8,07,154	—1,22,165	6,85,049		
15. STOCK PURCHASES	—1,397	957	—440		
15½. STOCK SALES	1,205	—1,140	155		
16. MISCELLANEOUS ADVANCES	4,445	—4,300	65		
18. LONDON STORES ... ..	...	...	...
TOTAL ..	8,11,567	—1,26,608	6,84,959	3,09,010	
GRAND TOTAL ..	3,36,71,812	12,49,601	3,49,21,413	3,59,49,683	
V.—LESS RECEIPTS ON CAPITAL ACCOUNT	47,319	5,12,745	5,60,065	5,43,100	
NET TOTAL ..	3,36,24,503	1,37,134	3,47,01,637	3,53,06,583	
APPORTIONMENT.					
49. IRRIGATION WORKS ...	3,35,16,322	7,37,131	3,42,53,766		
43 M. W. AND NAVIGATION ..	1,07,871	..	1,07,871		

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates	22,04,982	22,85,016	44,90,027	(I A)—EXTENSIONS AND IMPROVEMENTS.			
				(1)—HEAD WORKS ...	10,834	22,340	39,174
Sales of water	685	1,152	1,637	(2)—MAIN CANAL AND BRANCHES	2,50,571	1,844	2,52,415
				(3)—DISTRIBUTARIES ...		1,619	1,619
Water supply of towns ...	1,814		1,814	TOTAL I.A. ...	2,67,405	25,803	2,93,208
				(I B)—MAINTENANCE AND REPAIRS.			
				(1)—HEAD WORKS ...	1,80,898	46,885	2,27,718
Receipts from Plantations ...	1,356	424	1,774	(2)—MAIN CANAL & BRANCHES	5,07,080	1,91,737	6,98,817
				(3)—DISTRIBUTARIES ...	3,29,702	2,05,674	5,35,366
Receipts from other Canal produce.	511		511	(4)—DRAINAGE WORKS ...	72,988	20,958	93,946
				TOTAL I.B. ...	10,00,688	4,66,154	15,55,847
				(I C)—COMPENSATION...	37,739	4,560	42,299
				(II)—ESTABLISHMENT.	(b)		
				(5)—DIRECTION AND ACCOUNT	53,930	30,350	84,280
Rent of Buildings	17,096	6,102	23,768	(6)—EXECUTIVE ESTABLISHMENT.	2,11,838	80,575	2,92,413
				(7A)—REVENUE DO. ...	3,79,377	1,84,714	5,64,091
				TOTAL ...	6,15,145	2,95,639	9,40,784
				(III)—TOOLS AND PLANT.			
Fines	2,560	926	3,594	(1)—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	42		42
				(2)—PLANT AND MACHINERY	3,573	—1,511	1,982
				(12)—MISCELLANEOUS ...	11,870	7,110	18,080
Miscellaneous and other Receipts	41,571	15,290	56,870	(13)—REPAIRS AND CARRIAGE	6,811		6,811
				TOTAL ...	22,296	5,519	27,815
				(IV)—REFUNDS OF REVENUE.	2,075	269	2,344
Total ...	22,71,268	23,08,947	45,80,215	TOTAL ...	2,005,353	7,06,944	28,62,297
Interest on sale-proceeds of waste lands benefited.	99,886	59,039	1,25,525	Indirect Charges debitabie to Revenue Account as per Account No. 6.	90,320	1,31,909	41,589
Share of land revenue ...	1,90,860	1,95,233	3,05,089	TOTAL CHARGES ...	21,55,673	8,38,533	29,94,206
Collected in the Civil Department	2,68,742	2,51,872	5,23,614	Balance, Net Revenue ...	3,84,337	17,25,266	21,09,623
TOTAL RECEIPTS ...	25,40,010	25,03,819	51,03,829	GRAND TOTAL ...	25,40,010	25,03,819	51,03,829

(a).—Includes Rs. 60,537 on account of loss of collection of revenue.

(b).—Excluding Share of Accounts from 1912-13.

IRRIGATION BRANCH.

OFFICE OF ACCOUNTANT-GENERAL.

PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Chenab Canal Project.

No. 4.—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1915-16	71,88,668	Net revenue realized, to end of 1915-16	3,84,337
Do. for the year 1916-17		Do. during 1916-17	17,25,286
Total outlay to end of 31-3-17 = 3,43,61,637		Balance, net interest charges	61,99,593
Less half outlay during 1916-17 = 3,68,667			
Mean Capital at charge = 3,39,93,070			
Interest at 3.2964 per cent	11,20,548		
Total ..	83,09,216	Total ..	83,09,216

No. 5. ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue	2,91,725	67,925	3,59,650
Leave and Pension Allowances	5,85,367	35,572	6,20,897
Total ..	8,77,092	1,03,497	9,80,547
REVENUE—			
Capitalization of abatement of Land Revenue .. .. .	..	200	200
Leave and Pension Allowances	90,320	41,380	1,31,709
Total ..	90,320	41,580	1,31,909

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—					
Works	2,75,59,192	2,92,05,491 ^(a)	16,16,239	2,75,59,192	
Establishment	44,87,333	44,11,668 ^(b)	—45,665	44,87,333	
Tools and Plant	21,00,118	19,02,421 ^(c)	—2,67,724	21,00,118	
Suspense Balances	6,64,420	3,00,000	—3,84,820	6,64,420	
Total ..	3,49,21,502	3,65,19,687	9,25,081	3,49,21,502	
Less Receipts on Capital Account	5,69,865	5,13,000	—10,895	5,69,865	
Net Total ..	3,43,61,637	3,53,06,687	9,14,186	3,43,61,637	
INDIRECT CHARGES—					
Capitalized abatement of Land Revenue	3,59,650	5,16,069	1,57,018	3,59,650	
Leave and Pension Allowances	6,20,897	7,08,773	87,576	6,20,897	
Total ..	9,80,547	12,25,441	2,44,894	9,80,547	
GRAND TOTAL ..	3,53,42,184	3,65,32,021	11,89,840	3,53,42,184	

(a)—The following transfers of provision have been made

I.—Rs. 8,25,000—transferred from 49—Capital I—Works, Upper Chenab Canal, to 49—Capital I—Works, Upper Jhelum Canal, vide Government of India letter No. 676 I, dated 5th October 1918

II.—Rs. 3,000 } Transferred from 19—Capital I—Works to III.—Tools and Plant, Upper Chenab Canal Project, vide Irrigation Branch Secretary's No. 716 W. I., dated 15th February 1916, 0250 W. I., dated 12th June 1916 and 712 W. I., dated 10th February 1917.

(b)—The transfer of Rs. 1,74,494 from 49—Capital, III.—Tools and Plant to II—Establishment, Upper Chenab Canal Project as per Secretary's No. 610 W. I., dated 2nd February 1911 was erroneously accounted for against the Revised Estimate, hence set right.

(c)—Vide (a) II above.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES—			Cost of construction as now estimated	
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
L.—WORKS.					
1. HEAD WORKS—					
A.—Preliminary Expenses	13,800	...	13,800		
B.—Land	2,22,100	—20	2,22,161		
C.—Works	45,76,038	1,63,884	47,39,922		
K.—Buildings	1,33,551	5,163	1,38,714		
O.—Miscellaneous	21,701	101	21,802		
P.—Maintenance	78,796	..	78,796		
Q.—Losses on Stock ... ..	..	1,750	1,750		
TOTAL	50,46,172	1,79,935	52,17,077		
2. MAIN CANAL AND BRANCHES—					
A.—Preliminary Expenses	1,19,598	+ 34,361	1,53,959		
B.—Land	47,082	— 30,200	16,882		
D.—Regulators	1,27,792	..	1,27,792		
E.—Falls and Weirs	4,15,853	..	4,15,853		
F.—River and Hill Torrent Works ..	671	..	671		
F. (1).—Other Cross Drainage Works ...	4,54,145	596	4,55,041		
G.—Bridges	4,72,780	—2,066	4,70,114		
H.—Escapes	62,352	620	62,972		
K.—Buildings	10,11,616	38,874	10,50,619		
L.—Earthwork	83,85,422	349	83,85,771		
M.—Plantations	1,15,075	13,117	1,28,792		
O.—Miscellaneous	70,806	8,110	82,084		
P.—Maintenance	2,31,718	5,328	2,37,046		
Q.—Losses on Stock	405	..	405		
TOTAL	64,75,303	63,498	65,38,801		
3. DISTRIBUTARIES—					
A.—Preliminary Expenses	90,314	5,125	1,01,439		
B.—Land	1,31,676	—932	1,30,744		
C.—Works	11,95,810	55,115	12,50,925		
L.—Earthwork	13,65,114	64,589	14,29,703		
O.—Miscellaneous	11,50,339	1,08,664	13,25,003		
P.—Maintenance	32,108	2,079	34,187		
TOTAL	39,77,362	2,94,639	42,72,001		
4. DRAINAGE AND PROTECTIVE WORKS.					
A.—Preliminary	5,739	1,845	7,584		
B.—Land	409	0,082	0,491		
C.—Works	720	..	720		
L.—Earthwork	8,541	24,241	32,782		
O.—Miscellaneous	9,050	2,350	11,410		
TOTAL	24,469	34,518	58,987		
TOTAL L.—WORKS.	1,55,23,306	5,63,500	1,60,86,806	1,60,86,298	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.			Cost of construction as now estimated.
	Imperial.			
	Previous.	1916-17.	Total.	
	Rs.	Rs.	Rs.	Rs.
II—ESTABLISHMENT.				
5. DIRECTION AND ACCOUNTS (a)	5,30,561	38,608	5,69,172	
6. EXECUTIVE	20,00,153	2,25,087	22,25,140	
7. MEDICAL	92,578	12,275	1,04,851	
8. SPECIAL SURVEY	7,840	..	7,840	
TOTAL	27,30,133	2,76,870	30,07,003	32,49,734
III—TOOLS AND PLANT				
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS.	871	1,123	1,994	
2. PLANT AND MACHINERY	9,784	1,336	11,070	
3. TOOLS	427	1,320	1,747	
4. NAVIGATION PLANT	4,181	463	4,644	
5. CAMP EQUIPAGES	680	760	1,440	
6. LIVE STOCK .. ..	..	299	299	
7. OFFICE FURNITURE	2,153	1,646	3,799	
8. REPAIRS AND CARRIAGE	1,03,924	11,709	1,15,633	
9. MISCELLANEOUS	0,07,564	4,03,123	10,10,687	
10. RAILWAY PLANT AND ROLLING STOCK ..	7,83,454	..	7,83,454	
TOTAL	16,12,958	4,21,779	19,34,737	20,15,908
IV.—SUSPENSE ACCOUNT.				
14. STOCK	9,63,081	—57,820	9,05,261	
15. STOCK PURCHASES	—2,839	—1,197	—4,036	
15. (a) STOCK SALES	713	—361	352	
16. MISCELLANEOUS ADVANCES	1,515	—1,085	+430	
17. LONDON INVOICES	—1	..	—1	
18. LONDON STORES .. ..	..	..	..
TOTAL	9,62,469	—60,403	9,02,066	3,00,000
GRAND TOTAL	2,07,38,890	12,01,740	2,19,30,642	2,16,51,940
V.—Less RECEIPTS ON CAPITAL ACCOUNT ..	61,932	4,48,477	5,10,369	2,82,000
NET TOTAL	2,06,66,964	7,53,309	2,14,20,273	2,13,69,940
APPORTIONMENT.				
49.—IRRIGATION WORKS	2,04,09,443	7,53,309	2,12,52,752	
48.—M W. AND NAVIGATION, IMPERIAL ..	1,07,321	..	1,07,521	

(a) Excludes share of account from 1912-13.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

Receipts.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ...	9,46,156	7,31,730	16,80,886	(I.A)—EXTENSIONS AND IMPROVEMENTS.			
				1.—HEAD WORKS ...	2,137	2,669	4,806
				2.—MAIN CANAL AND BRANCHES	2,717	1,471	4,188
				3.—DISTRIBUTARIES ...	7,73	4,821	12,159
				4.—DRAINAGE AND PROTECTIVE WORKS.	...	...	..
				TOTAL I. A ...	12,102	8,961	21,153
Es'ces of water ..	1,830	11,410	16,340	(I.B)—MAINTENANCE AND REPAIRS.			
				1.—HEAD WORKS ...	80,717	33,022	1,23,339
				2.—MAIN CANAL AND BRANCHES.	2,71,280	1,69,228	4,30,508
				3.—DISTRIBUTARIES ..	3,18,297	1,05,977	4,34,274
				4.—DRAINAGE WORKS ..	7,565	819	8,384
				TOTAL I.B. ..	6,86,859	3,59,646	10,46,505
Receipts from Plantations ...	3,591	3,075	6,366	(I.C)—COMPENSATION.			
" other Canal produce	335	...	335	(II)—ESTABLISHMENT			
				1.—DIRECTION AND ACCOUNTS.	(a) 37,502	20,504	67,096
Rent of buildings ...	1	6,031	6,031	6.—EXECUTIVE ESTABLISHMENT.	1,13,132	60,031	1,73,163
				(7A)—REVENUE Do. ...	1,99,881	1,31,819	3,31,700
				TOTAL ...	3,50,515	2,21,414	5,71,959
Fines ...	1,001	407	1,471	III.—TOOLS AND PLANT.			
				1.—SURVEYING INSTRUMENTS AND DRAWING MATERIALS	...	..	..
				2.—PLANT AND MACHINERY ...	...	...	...
				3.—TOOLS ...	...	...	...
				4.—NAVIGATION PLANT ..	...	..	..
				5.—CAMP EQUIPAGES ...	...	...	...
				6.—LIVE STOCK ...	...	..	...
Miscellaneous and other Receipts,	13,280	3,552	16,832	7.—OFFICE FURNITURE ..	...	...	6
				8.—REPAIRS AND CARRIAGE MISCELLANEOUS.	9,979	5,297	15,276
				TOTAL ...	9,979	5,303	15,282
				IV.—REFUNDS OF REVENUE	662	237	899
				V.—PROFIT AND LOSS.	...	...	...
				TOTAL ...	10,00,207	5,05,591	16,55,798
Total	9,60,723	7,02,206	17,29,929	Indirect Charges debitable to Revenue Account as per Account No. 5.	40,072	31,002	80,074
Share of Land Revenue collected in the Civil Department.		3	3,819	TOTAL CHARGES ...	11,00,279	6,26,593	17,32,875
Interest on sale proceeds of waste land benefited.	1,68,114	1,99	3,07,218	Balance, Not Revenue ..	25,558	3,38,537	3,64,095
TOTAL RECEIPTS ...	11,34,837	9,65,130	20,99,967	GRAND TOTAL ...	11,34,837	9,65,130	20,99,967

(a). Excludes share of accounts since 1912-13.

(b). Includes Rs. 21,103 on account of Lambardars' fees for 1916-17.

IRRIGATION BRANCH.

OFFICE OF ACCOUNTANT-GENERAL.

PUNJAB PROVINCE.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Bari Doab Canal Project.

No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Rs.		Rs.
Total Interest charges to end of 1915-16 ..	32,06,967	Net Revenue realized to end of 1915-16 ..	25,538
Do. for the year 1916-17 ..		Do. during 1916-17 ..	8,38,637
Total outlay to 31st March 1917 ..	Rs. 2,14,20,273	Balance Interest net charges ...	35,36,554
Less half outlay during 1916-17 ..	3,76,655		
Mean capital at charge ..	2,10,43,618		
Interest at 3 296½ per cent ..	6,03,682		
Total ..	39,00,649	Total ..	39,00,649

No. 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

PARTICULARS.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue ..	43,750	200	43,950
Leave and Pension Allowances ..	3,71,278	38,762	4,10,040
Total ..	4,15,028	38,962	4,53,990
REVENUE—			
Leave and Pension Allowances ..	49,072	31,002	80,074
Total ..	49,072	31,002	80,074

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—					
Works ..	1,60,86,860	1,60,86,508	--568	1,60,86,860	Revised estimate sanctioned in Secretary of State's Despatch No. 5 P. W., dated 17th February 1911. Rs. 3,00,000 transferred from I—Works to III—Tools and Plants as per Secretary's Irrigation Branch letter No. 6910 W 1 dated 5th August 1916.
Establishment ..	30,07,003	32,10,731	2,12,731	30,07,003	
Tools and Plant ..	19,34,767	20,15,908	81,141	19,34,767	
Suspense Balances ..	0,02,076	3,00,000	--6,02,006	9,02,006	
Total ..	2,19,30,612	2,16,51,046	--2,78,702	2,19,30,612	
Less Receipts on Capital Account ..	5,10,369	2,82,000	--2,28,369	5,10,369	
Net Total ..	2,14,20,273	2,13,69,046	--50,333	2,14,20,273	
INDIRECT CHARGES—					
Capitalized abatement of Land Revenue ..	43,950	1,47,500	1,03,550	43,950	
Leave and Pension Allowances ..	4,10,040	5,10,082	100,922	4,10,040	
Total ..	4,53,990	6,58,442	2,04,472	4,53,990	
GRAND TOTAL ..	2,18,74,263	2,20,28,402	1,54,130	2,18,74,263	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 2.—CAPITAL ACCOUNTS FOR AND TO END OF 1916-17.

HEADS OF ACCOUNTS.					DIRECT CHARGES.			Cost of construction as now estimated.
					Imperial.			
					Previous.	1916-17	Total.	
					Rs.	Rs.	Rs.	Rs.
I.—WORKS.								
1.—HEAD WORKS—								
A.—Preliminary Expenses.. .. .					7,349	..	7,349	
B.—Land					11,020	..	11,020	
C.—Works					1,818	..	1,818	
K.—Buildings					1,50,401	1,012	1,51,413	
O.—Miscellaneous					38,021	..	38,021	
P.—Maintenance					14,972	..	14,972	
TOTAL					2,69,611	1,012	2,70,623	
2.—MAIN CANAL AND BRANCHES—								
A.—Preliminary Expenses... .. .					1,11,005	1,100	1,12,105	
B.—Land					9,21,556	10,607	9,32,163	
D.—Regulators					33,18,102	—19,050	32,99,052	
E.—Dams and Weirs					1,62,235	3,817	1,66,052	
F.—River and Hill Torrent Works					1,41,00,978	2,29,865	1,43,30,843	
G.—Bridges					10,20,501	13,200	10,33,701	
H.—Escapes					2,59,807	370	2,60,177	
K.—Buildings					6,10,090	71,246	6,81,336	
L.—Earthwork					1,05,30,894	1,49,015	1,06,80,009	
M.—Plantations					51,750	87	51,837	
O.—Miscellaneous					60,076	1,892	61,968	
P.—Maintenance					3,07,842	4,217	3,12,059	
Q.—Losses on Stock					5,100	—929	4,171	
TOTAL					3,05,97,518	4,65,887	3,10,63,405	
3.—DISTRIBUTARIES—								
A.—Preliminary Expenses.. .. .					28,610	14,622	43,232	
B.—Land					1,37,582	1,41,011	2,78,593	
C.—Works					2,77,082	2,00,682	4,77,764	
L.—Earthwork					2,66,373	2,81,010	5,47,383	
O.—Miscellaneous					52,058	2,79,130	3,31,188	
TOTAL					7,01,685	7,26,701	14,28,386	

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.					DIRECT CHARGES.			Cost of construction as now estimated.
					Imperial,			
					Previous	1916-17.	Total	
					Rs.	Rs.	Rs.	Rs. 1
I. DRAINAGE AND PROTECTIVE WORKS—								
A.—Preliminary Expenses					0,958	..	0,958	
O.—Miscellaneous					127	..	127	
TOTAL					7,085	..	7,085	
TOTAL I.—WORKS					8,16,23,062	13,93,663	2,30,19,626	3,53,54,855
II.—ESTABLISHMENT.								
5. DIRECTION AND ACCOUNT (a)					8,99,552	56,866	9,55,448	
C. EXECUTIVE					33,81,369	2,17,334	36,28,803	
7. MEDICAL					1,22,665	14,022	1,37,607	
TOTAL					44,03,626	3,18,322	47,21,948	40,02,371
III.—TOOLS AND PLANT.								
1. SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS					248	442	690	
2. PLANT AND MACHINERY					28,61,160	533	28,61,692	
3. TOOLS					—2,438	2,400	—38	
4. NAVIGATION PLANT					323	1,403	1,726	
5. CAMP EQUIPAGE					466	103	568	
7. OFFICE FURNITURE					3,668	2,556	6,223	
8. REPAIRS AND CARRIAGE					1,45,639	5,076	1,50,615	
MISCELLANEOUS					14,70,175	1,00,326	15,70,401	
TOTAL					41,70,929	1,12,738	46,91,767	46,59,540
IV.—SUSPENSE ACCOUNT.								
14. STOCK					11,74,927	—1,16,97	10,57,948	
15. STOCK PURCHASES					—16,187	—12,024	—28,211	
16a. „ SALES					631	—480	151	
16. MISCELLANEOUS ADVANCES					8,600	—3,190	5,310	
17. LONDON INVOICES .. .. .					..	..	..
18. LONDON STORES .. .. .					..	..	..
TOTAL					11,67,874	—1,32,673	10,35,201	6,00,000
GRAND TOTAL					4,16,70,491	16,92,060	4,33,68,541	4,52,20,766
V.—LESS RECEIPTS ON CAPITAL ACCOUNT					95,195	2,61,762	3,56,957	11,65,484
NET TOTAL					4,15,81,296	14,30,288	4,30,11,584	4,40,65,282
APPORTIONMENT.								
40. IRRIGATION WORKS					4,15,14,346	14,30,288	4,29,44,634	
43. MINOR WORKS AND NAVIGATION, IMPERIAL.. .. .					66,948	..	66,948	

(a) Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Water rates .. ..	..	74,793	74,793	(I. A.)—EXTENSIONS AND IMPROVEMENTS.			
				(2.)—MAIN CANAL AND BRANCHES.	20,225	44,399	64,624
				TOTAL I. A. ..	20,225	44,399	64,624
Sales of water .. ..	..	291	291	(I. B.)—MAINTENANCE AND REPAIRS.			
				(1.)—HEAD WORKS ..	10,850	14,851	25,511
				(2.)—MAIN CANAL AND BRANCHES.	2,39,678	3,72,298	6,11,973
				(3.)—DISTRIBUTARIES ..	..	31,685	31,685
Receipts from plantations ..	..	2	2	TOTAL I. B. ..	2,50,338	4,18,781	6,69,119
				II.—ESTABLISHMENT.			
				(5.)—DIRECTOR AND ACCOUNTS.	8,446	22,313	(b) 30,759
Rents of Buildings ..	3,120	5,256	8,376	(6.)—EXECUTIVE ESTABLISHMENT.	41,254	76,320	1,20,574
				(7 A.)—REVENUE ESTABLISHMENT.	6,634	(a) 51,267	57,901
				TOTAL ..	50,334	1,49,890	2,09,224
Fines .. ..	..	238	238	(III.)—TOOLS AND PLANT.			
				(3.)—TOOLS ..	—29	..	—29
				(7.)—OFFICE FURNITURE	71	—1	70
Miscellaneous & other receipts.	3,144	3,054	6,198	(8.)—DETAILS AND CARRIAGE.	..	7	7
				MISCELLANEOUS ..	3,904	6,731	10,635
				TOTAL ..	3,946	6,740	10,686
				IV. REFUNDS OF REVENUE.			
				TOTAL ..	30	5	35
Total ..	6,261	83,036	89,297	Indirect Charges debitable to Revenue Account as per Account No. 5.	8,307	20,985	29,292
				TOTAL CHARGES ..	3,42,180	6,40,800	9,82,980
				Balance, Not Revenue ..	—3,35,916	—5,57,164	—8,93,080
TOTAL RECEIPTS ..	6,261	83,036	89,297	GRAND TOTAL ..	6,261	83,036	89,297

(a). Includes Rs. 1,867 on account of fees for collection of Revenue.

(b). Excludes share of accounts.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Upper Jhelum Canal Project.

No. 4—INTEREST ACCOUNT FOR AND TO END OF 1916-17.

	Amount.		Amount.
	Rs.		Rs.
Total Interest charges to end of 1916-16 ..	71,29,183	Net revenue realized during 1916-17 ..	—5,67,164
Do. for the year 1916-17 ..		Balance net Interest charges ..	90,80,607
Total outlay to 31st March 1917 ...	4,30,11,684		
Less half outlay during 1916-17 ...	7,15,144		
Mean capital at charge ...	4,22,96,440		
Interest at 3-2904 per cent ..	13,94,260		
Total ..	85,23,443		85,23,443

No. 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END, OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue	1,08,326	13,975	1,22,300
Leave and Pension Allowances	6,11,498	44,565	6,56,063
Total ..	7,79,823	58,540	8,38,363
REVENUE—			
Capitalization of abatement of Land Revenue .. ..	..	..	..
Leave and Pension Allowances	8,307	20,985	29,292
Total ..	8,307	20,985	29,292
GRAND TOTAL ..	7,88,130	79,525	8,67,655

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—					
Works ..	3,30,19,625	3,53,58,855	23,39,230	3,30,19,625	Changes in figures of sanctioned estimates for I—Works and III—Tools and Plant as compared with the sanctions shown in the last account are due to the transfer of Rs. 825,000 from the head I—Works of the Upper Chenab Canal to that of Upper Jhelum Canal, vide Government of India Public Works Department's letter No. 067CI, dated 6th October 1916 and to the transfer of Rs. 14,000 and 61,000 from I—Works to III—Tools and Plant of Upper Jhelum Canal, vide Government Punjab Public Works Department, Irrigation Branch's Letters Nos. 1201 W. I. dated 15-3-17, 1616 W. I. dated 30-3-17, and 1698, dated 8-4-16.
Establishment ..	47,21,948	46,02,371	—1,10,577	47,21,948	
Tools and Plant ..	45,91,707	40,59,510	67,773	45,91,707	
Suspense Balances..	10,35,201	6,00,000	—4,35,201	10,35,201	
Total ..	4,33,68,511	4,32,20,766	18,62,225	4,33,68,511	
Less Receipts on Capital Account.	3,56,737	11,56,484	7,98,627	3,56,967	
Net Total ..	4,30,11,774	4,40,65,282	10,33,001	4,30,11,774	
INDIRECT CHARGES—					
Capitalized abatement of Land Revenue.	1,82,300	1,10,945	—71,357	1,82,300	
Leave and Pension Allowances.	6,56,063	9,45,332	2,89,268	6,56,063	
Total ..	8,38,363	10,56,277	2,17,911	8,38,363	
GRAND TOTAL ..	4,38,49,947	4,51,21,559	12,71,612	4,38,49,947	

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Imperial.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES			Cost of construction as now estimated (Construction Estimate closed on 31st March 1894).	Expenditure against closed Estimates.
	Imperial.				
	Previous.	1916-17.	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
I.—WORKS.					
2.—MAIN CANAL AND BRANCHES—					
B.—Land	3,028	..	3,028		
D.—Regulator	13,187	..	13,187		
G.—Bridges	20,522	..	20,522		
L.—Earthwork	89,974	..	89,974		
TOTAL	1,26,711	..	1,26,711		
3.—DISTRIBUTARIES—					
B.—Land	8,210	..	8,210		
C.—Works	18,561	..	18,561		
L.—Earthwork	21,560	..	21,560		
TOTAL	48,340	..	48,340		
TOTAL I.—WORKS	1,75,060	..	1,75,060	1,75,060	1,75,060
II.—ESTABLISHMENT.					
5. DIRECTION	7,518	..	7,518		
6. EXECUTIVE	22,712	..	22,712		
TOTAL	30,260	..	30,260	30,260	30,260
III.—TOOLS AND PLANT.					
12. MISCELLANEOUS	586	..	586		
13. REPAIRS AND CARRIAGE	28	..	28		
TOTAL	613	..	613	613	613
GRAND TOTAL	2,05,933	..	2,05,933	2,05,933	2,05,933
APPORTIONMENT.					
49 IRRIGATION WORKS	2,05,933	..	2,05,933	2,05,933	2,05,933

Note.—Capital and Revenue accounts of these Canals will continue to be prepared separately until the Shahpur Branch of the Lower Jhelum Canal has been constructed and opened for irrigation, vide Secretary to Govt., Punjab, P. W. D. Irrigation Branch letter No. 986 A. I., dated 7-6-05.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Imperial.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	(I.A.)—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Occupiers' rates ..	21,90,534	80,315	22,70,849	2.—MAIN CANAL AND BRANCHES	82,238	..	82,238
				3.—DISTRIBUTARIES	14,623	..	14,623
Sales of water ..	1,309	6	1,315	TOTAL I.A.	96,861	..	96,861
Receipts from Plantations ...	16,576	25	16,601	(I. B.)—MAINTENANCE AND REPAIRS.			
				2.—MAIN CANAL AND BRANCHES	6,13,780	15,601	6,29,380
Receipts from other Canal produce.	3,856	..	3,856	3.—DISTRIBUTARIES	1,22,287	3,338	1,25,625
Rent of Buildings ..	1,388	..	1,388	TOTAL I. B.	7,36,067	18,939	7,55,015
				(I. C.)—COMPENSATION ..	553	..	553
Fines ..	1,866	..	1,866	(II.)—ESTABLISHMENT.			
Miscellaneous and other Receipts.	1,710	..	1,710	5.—DIRECTION AND ACCOUNT	(b) 73,399	6,331	79,720
				6.—EXECUTIVE ESTABLISHMENT			
				7.—MEDICAL Do. ...	4,71,090	(a)	4,90,413
				7A.—REVENUE Do. ..			
				7B.—NAVIGATION Do. ..			
				TOTAL	5,46,395	21,768	5,70,163
Total ...	22,23,249	80,346	23,03,595	III.—TOOLS AND PLANT.			
				12.—MISCELLANEOUS	3,109	..	3,109
				13.—REPAIRS AND CARRIAGE ..	2,012	..	2,012
				TOTAL	5,121	..	5,121
Share of Land Revenue collected in the Civil Department.	3,42,322	34,672	3,76,994	IV.—REFUNDS OF REVENUE	1,233	..	1,233
				TOTAL	13,85,239	43,707	14,28,946
				Indirect Charges debitable to Revenue Account as per Account No. 5.	77,826	3,468	81,294
Total ...	3,42,322	34,672	3,76,994	TOTAL CHARGES	14,63,065	47,175	15,10,240
				Balance, Not Revenue	11,02,506	67,813	11,70,348
TOTAL RECEIPTS	25,65,570	1,15,018	26,80,588	GRAND TOTAL	25,65,570	1,15,018	26,80,588

(a). Includes Rs. 2,247 on accounts of fees for collection of revenue.

(b). Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Imperial.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
CAPITAL—			
Capitalization of abatement of Land Revenue	5,175	..	5,438
Leave and Pension Allowances	1,313	..	4,343
Total	6,951	..	9,981
REVENUE—			
Capitalization of abatement of Land Revenue	944	..	944
Leave and Pension Allowances	76,852	3,408	80,350
Total	77,826	3,408	81,294
GRAND TOTAL	87,907	3,168	91,275

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

PARTICULARS.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.				REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions	Total.	Charges to date.	Amount of Sanctioned Estimate.	Unspent Balance of Estimate.	Total charges to date against old and current sanctions.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES.								
Works ..	1,75,060	..	1,75,060	..	..	..	1,75,060	
Establishment ..	30,260	..	30,260	..	..	..	30,260	
Tools and Plants ..	613	..	613	..	..	..	613	
Total ..	2,05,933	..	2,05,933	..	..	..	2,05,933	
Less Receipts on Capital Account. ..	..	..	..	..	..	..	..
Not Total ..	2,05,933	..	2,05,933	..	..	..	2,05,933	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue.	5,038	..	5,038	..	..	..	5,038	
Leave and Pension Allowances.	4,343	..	4,343	..	..	..	4,343	
Total ..	9,981	..	9,981	..	..	..	9,981	
GRAND TOTAL	2,15,914	..	2,15,914	..	..	..	2,15,914	

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 2—CAPITAL ACCOUNT FOR AND TO END OF 1916-17.

HEADS OF ACCOUNT.	DIRECT CHARGES.								
	Imperial.			Contribution.			Total.		
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1.—WORKS.									
1. HEAD WORKS—									
B.—Land ..	432	..	432	268	..	268	720	..	720
C.—Works ..	50,817	..	50,817	30,878	..	30,878	99,695	..	99,695
K.—Buildings ..	2,186	..	2,186	1,454	..	1,454	3,644	..	3,644
TOTAL ..	62,435	..	62,435	41,624	..	41,624	1,01,059	..	1,01,059
2. MAIN CANAL AND BRANCHES									
A.—Preliminary Expenses	7,569	..	7,569	5,010	..	5,010	12,615	..	12,615
B.—Land ..	8,750	..	8,750	8,291	..	8,291	17,044	..	17,044
D.—Regulators ..	10,065	..	10,065	8,431	..	8,431	28,116	..	28,116
E.—Falls and Weirs ..	1,861	..	1,861	5,010	..	5,010	6,910	..	6,910
G.—Bridges ..	24,070	..	24,070	27,690	..	27,690	51,775	..	51,775
H.—Escapes ..	13,185	..	13,185	5,651	..	5,651	18,839	..	18,839
K.—Buildings ..	5,880	..	5,880	1,387	..	1,387	21,271	..	21,271
L.—Earthwork ..	77,205	..	77,205	1,10,100	..	1,10,100	1,57,314	..	1,57,314
O.—Miscellaneous ..	1,837	..	1,837	2,588	..	2,588	4,425	..	4,425
TOTAL ..	1,60,057	..	1,60,057	1,88,255	..	1,88,255	3,48,312	..	3,48,312
3. DISTRIBUTARIES—									
A.—Preliminary Expenses	403	..	403	..	..	..	403	..	403
B.—Land ..	3,933	..	3,933	..	..	..	3,933	..	3,933
C.—Works ..	17,095	..	17,095	..	..	..	17,095	..	17,095
L.—Earthwork ..	20,210	..	20,210	..	..	..	20,210	..	20,210
O.—Miscellaneous ..	14,783	..	14,783	8,745	..	8,745	23,528	..	23,528
TOTAL ..	66,324	..	66,324	8,745	..	8,745	75,069	..	75,069

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 2.—CAPITAL ACCOUNT FOR AND TO END OF 1916-17

HEADS OF ACCOUNT.	DIRECT CHARGES.									Cost of construction as now estimated (Construction Estimate closed on 31st March 1905.)	Expenditure against closed Estimates.
	Imperial.			Contribution.			Total.				
	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.	Previous.	1916-17.	Total.		
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
I.—DRAINAGE AND PROTECTIVE WORKS											
I.—Earthwork	5,801	...	5,801	...	...	...	5,801	...	5,801	..	...
TOTAL	5,801	...	5,801	...	..	..	5,801	...	5,801	..	...
TOTAL I.—WORKS	2,91,617	...	2,91,617	2,38,624	...	2,38,624	5,33,241	..	5,33		
II.—ESTABLISHMENT.											
5.—DIFFERENCE AMOUNT	12,614	...	(a) 12,614	8,453	..	8,453	22,067	...	22		
6.—EXECUTIVE	42,028	...	42,028	30,301	..	30,301	74,020	...	74		
7.—MEDICAL	5,555	...	5,555	...	..	..	5,555	..	1		
LEAVE AND PENSION ALLOWANCES ..	...	...	...	5,439	...	5,439	5,439	..	1		
TOTAL	62,707	...	62,707	41,234	...	41,234	1,07,081	..	1,07		
III.—TOOLS AND PLANT											
12.—MISCELLANEOUS	7,923	...	7,923	2,534	...	2,534	10,457	..	10		
TOTAL	7,923	...	7,923	2,534	...	2,534	10,457	..	10		
GRAND TOTAL	3,66,337	...	3,66,337	2,85,442	..	2,85,442	6,50,779	..	6,50		
V.—LESS RECEIPTS ON CAPITAL ACCOUNT.											
Net Total	3,66,337	...	3,66,337	2,85,442	..	2,85,442	6,50,779	..	6,50,779	6,50,779	6,50,779
APPORTIONMENT.											
43.—M. W. AND NAVIGATION, IMPERIAL	3,66,337	...	3,66,337	2,85,442	...	2,85,442	6,50,779	..	6,50,779	..	..

(a). Share of Accounts excluded under Imperial from 1912-13.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS	IMPERIAL			CONTRIBUTION.			TOTAL.		
	Previous.	1916-17.	Total.	Previous	1916-17.	Total.	Previous.	1916-17.	Total.
	Rs.	Rs	Rs	Rs.	Rs.	Rs.	Rs.	Rs.	Rs
Occupier's rates ..	1,17,495	21,847	1,39,342	..	..	..	1,17,495	21,847	1,39,342
Receipts from Plantations ..	2	..	2	2	..	2	4	..	4
Receipts from other Canal produce. ..	..	..	..	1	..	1	1	..	1
Rent of Buildings ..	232	..	232	148	..	148	380	..	380
Fines ..	260	..	260	70	..	70	330	..	330
Miscellaneous and other Receipts. ..	181	3	184	120	..	120	301	3	304
Total ..	1,18,170	21,850	1,40,020	341	..	341	1,18,511	21,850	1,40,361
TOTAL RECEIPTS ..	1,18,170	21,850	1,40,020	341	..	341	1,18,511	21,850	1,40,361

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

CHARGES.	IMPERIAL.			CONTRIBUTION.			TOTAL.		
	Previous	1916-17.	TOTAL	Previous.	1916-17.	Total	Previous.	1916-17.	Total
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(I A)—EXTENSIONS AND IMPROVEMENTS.									
(1).—HEAD WORKS ..	9,688	321	10,009	6,115	214	6,329	15,103	535	15,638
2.—MAIN CANAL AND BRANCHES	7,116	1,078	8,194	1,778	419	2,197	8,891	2,007	10,898
3.—DISTRIBUTARIES ..	3,600	..	3,600	..	..	..	3,600	..	3,600
4.—DRAINAGE AND PROTECTIVE WORKS.	801	..	801	..	..	..	801	..	801
TOTAL I. A. ..	21,205	1,399	22,604	7,893	633	8,526	28,305	2,542	30,847
(I. B)—MAINTENANCE AND REPAIRS.									
1.—HEAD WORKS ..	29,723	811	30,534	10,815	511	11,326	40,538	1,322	41,860
2.—MAIN CANAL AND BRANCHES	99,180	5,212	1,04,392	60,100	1,303	61,403	1,59,592	6,516	1,66,108
3.—DISTRIBUTARIES ..	26,022	813	26,835	169	..	169	27,033	813	27,846
4.—DRAINAGE AND PROTECTIVE WORKS.	832	..	832	..	..	..	832	..	832
TOTAL I. B. ..	1,55,957	6,836	1,62,793	80,094	1,814	81,908	2,30,057	8,630	2,38,687
(I. C).—COMPENSATION ..	10,909	..	10,909	..	..	..	10,909	..	10,909
(II).—ESTABLISHMENT.									
5.—DIRECTION AND ACCOUNT (b)	59,051	3,806	62,857	4,409	138	4,547	67,600	3,944	71,544
(6).—EXECUTIVE ESTABLISHMENT	1,72,739	11,617	1,84,356	16,106	385	16,491	1,88,815	15,001	2,03,816
(7).—MEDICAL Do. ..	6,302	..	6,302	..	..	..	6,302	..	6,302
(7A).—REVENUE Do. ..	1,03,997	602	1,04,599	..	..	..	1,03,997	602	1,04,599
(7D).—LEAVE AND PENSION ALLOWANCES.	..	..	..	2,882	73	2,955	2,882	73	2,955
TOTAL ..	3,33,119	19,017	3,52,136	23,487	594	24,081	3,56,606	19,611	3,76,217
(III).—TOOLS AND PLANT.									
12.—MISCELLANEOUS ..	—682	—31	—713	1,727	34	1,761	4,542	..	4,542
13.—REPAIRS AND CARRIAGE ..	3,507	..	3,507	..	..	..	..	..	..
TOTAL ..	2,815	—31	2,784	1,727	34	1,761	4,542	..	4,542
IV.—REFUNDS OF REVENUE	2,432	..	2,432	20	..	20	2,452	..	2,452
TOTAL ..	5,26,413	27,816	5,54,229	1,12,517	3,103	1,15,620	6,76,000	30,923	6,60,883
Indirect Charges debitable to Revenue Account as per Account No. 5.	46,637	2,662	49,299	..	..	..	46,637	2,662	49,299
TOTAL CHARGES ..	5,73,050	30,478	6,03,528	1,12,517	3,103	1,15,620	6,85,597	33,585	7,19,182
BALANCE NET REVENUE ..	—4,56,910	—8,630	—4,65,540	—1,12,176	3,106	—1,15,281	—5,67,086	—11,735	—5,78,821
GRAND TOTAL ..	1,16,140	21,848	1,40,020	341	..	341	1,18,511	21,850	1,40,361

(a). Includes Rs. 602 as fees for collection of Revenue.

(b). Share of account excluded under Imperial from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ghaggar Canal Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	[Total].
CAPITAL—	Rs.	Rs.	Rs.
Capitalization of abatement of Land Revenue ..	2,000	..	2,000
Leave and Pension Allowances { Imperial ..	8,792	..	8,792
{ Contribution ..	5,439	..	5,439
Total ..	16,231	..	16,231
<i>Deduct—Leave and Pension Allowances debitable to Bikanir State treated as direct charge and transferred to Account No. 2 of the canal.</i>	5,439	..	5,439
Net debitable to Imperial ..	10,792	..	10,792
REVENUE—			
Capitalization of abatement of Land Revenue ..	..	..	..
Leave and Pension Allowances { Imperial ..	46,637	2,662	49,299
{ Contribution ..	2,882	73	2,955
Total ..	49,519	2,735	52,254
<i>Deduct—Leave and Pension Allowances debitable to Bikanir State treated as direct charge and transferred to Account No. 3 of the canal.</i>	2,882	73	2,955
Total ..	46,637	2,662	49,299

No. 6.—STATEMENT COMPARING CHARGES TO DATE WITH SANCTIONED ESTIMATE.

Particulars.	CHARGES AGAINST CLOSED SANCTIONS.			CURRENT SANCTIONS.			Total charges to date against old and current sanctions.	REMARKS.
	Expenditure against Construction Estimate.	Expenditure against open canal sanctions.	Total.	Charges to date.	Amount of sanctioned Estimate.	Unspent Balance of Estimate.		
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
DIRECT CHARGES—								
Works ..	4,08,214	35,027	4,43,241	..	..	..	4,43,241	
Establishment ..	1,00,970	6,111	1,07,081	..	..	..	1,07,081	
Tools and Plant ..	10,048	409	10,457	..	..	..	10,457	
Total ..	5,09,232	41,547	5,50,779	..	..	..	5,50,779	
<i>Less Receipts on Capital Account.</i>								
Not Total ..	5,09,232		5,50,779	..	..	..	5,50,779	
INDIRECT CHARGES—								
Capitalized abatement of Land Revenue.	1,901	100	2,001	..	..	..	2,000	
Leave and Pension Allowances.	7,968	824	8,792	..	..	..	8,792	
Total ..	9,869	924	10,793	..	..	..	10,792	
GRAND TOTAL ..	6,19,100	42,471	6,61,571	..	..	..	6,61,571	

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No. 3—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates	33,05,804	3,16,634	50,22,438	(I A.)—EXTENSIONS AND IMPROVEMENTS.			
				2.—MAIN CANAL AND BRANCHES	8,20,281	42,321	8,71,602
				3.—DISTRIBUTARIES ..	1,38,827	3,601	1,42,428
				4.—DRAINAGE AND PROTECTIVE WORKS.	5,688	..	5,688
Sales of water	2,458	178	2,636	TOTAL I.A. ..	9,78,796	45,922	10,18,718
				(I B.)—MAINTENANCE AND REPAIRS.			
Receipts from Plantations..	64,642	2,495	67,137	2.—MAIN CANAL AND BRANCHES	27,11,755	75,686	27,87,441
				3.—DISTRIBUTARIES ..	1,49,931	10,833	1,60,764
Receipts from other Canal produce.	33,808	186	33,994	4.—DRAINAGE WORKS ..	3,540	..	3,540
				TOTAL I.B. ..	28,65,226	86,519	29,51,745
				I.C.—COMPENSATION ..	4,004	100	4,104
Rent of Buildings				(II)—ESTABLISHMENT ..			
				5.—DIRECTION AND ACCOUNT	4,80,476	(b) 11,670	4,92,155
				6.—EXECUTIVE ESTABLISHMENT	15,00,510	40,960	15,50,479
				7.—MEDICAL do. ..	24,709	1,383	26,092
				7A.—REVENUE do. ..	4,38,679	30,200	(a) 4,68,880*
Fines	54,303	1,721	56,024	TOTAL ..	24,40,274	93,201	25,33,565
Miscellaneous and other Receipts.				III.—TOOLS AND PLANT			
				1.—SCIENTIFIC INSTRUMENTS AND DRAWING MATERIALS	..	75	75
				2.—PLANT AND MACHINERY	..	..	..
				3.—TOOLS ..	108	60	177
				4.—NAVIGATION PLANT ..	..	..	..
				5.—CAMP EQUIPAGE ..	32	..	32
				6.—LIVE STOCK ..	..	..	..
				7.—OFFICE FURNITURE ..	33	211	244
				8.—REPAIRS AND CARRIAGE	17,287	1,284	18,571
				MISCELLANEOUS ..	27,432	—183	27,249
				TOTAL ..	44,802	1,456	46,348
Total	34,61,015	3,21,214	37,82,229	IV.—REFUNDS OF REVENUE.	3,318	180	3,504
				V.—PROFIT AND LOSS ..	348	..	348
Contribution	12,45,839	..	12,45,839	SUSTENANCE ACCOUNT.			
				Miscellaneous Advances ..	38	—39	—1
Chher Labour	39,24,410	..	39,24,410	Stock ..	22,761	—583	22,178
				Stock Purchases ..	1	..	1
				Stock Sales ..	..	..	..
				TOTAL ..	22,800	—622	22,178
Share of Land Revenue collected in the Civil Department.	2,05,700	91,49,872	94,55,572	TOTAL ..	63,54,748	2,26,852	66,81,600
				Chher Labour ..	39,24,410	..	39,24,410
				TOTAL ..	1,02,79,158	2,26,852	1,05,06,010
				Indirect Charges debitible to Revenue Account as per Account No. 5.	3,74,739	13,061	3,87,800
				TOTAL CHARGES ..	1,06,53,897	2,39,913	1,08,93,810
TOTAL RECEIPTS ..	1,77,81,136	6,26,914	1,84,08,050	Balance, Net Revenue ..	71,27,235	3,87,001	75,14,240
				GRAND TOTAL ..	1,77,81,136	6,26,914	1,84,08,050

(a) Includes Rs. 9,089 on account of fees for collection of Revenue.

(b) Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916 17

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Capitalization abatement of Land Revenue ...	5	...	5
Leave and Pension Allowances ...	3,74,734	13,061	3,87,795
Total ...	3,74,739	13,061	3,87,800

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals including Hajiwah Canal Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES	IMPERIAL.		
	Previous	1916-17.	Total		Previous	1916-17.	Total
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ..	4,05,624	22,424	5,15,048	(I A.)—EXTENSIONS AND IMPROVEMENTS.	35,750	—2,326	33,425
				(2)—MAIN CANAL & BRANCHES..	17	..	15
				(3)—DISTRIBUTARIES ..			
				TOTAL I. A. ..	35,750	—2,326	33,440
Sales of water ...	11	..	11	(I. B.)—MAINTENANCE AND REPAIRS.			
				(2)—MAIN CANAL & BRANCHES	2,01,781	6,052	2,67,833
Receipts from Plantations	157	..	157	(3)—DISTRIBUTARIES ..	12	..	12
				TOTAL I. B. ..	2,01,793	6,052	2,67,845
Receipts from other Canal produce.	36	..	36	(I. C.)—COMPENSATION.			
				II. ESTABLISHMENT.			
Miscellaneous and other Receipts.	90	..	90	(5)—DIRECTION AND ACCOUNT..	(b) 30,008	..	30,008
				(6)—EXECUTIVE ESTABLISHMENT	76,219	1,591	77,810
				(7A.)—REVENUE Do. ..	35,161	(a) 2,437	37,598
				TOTAL ..	1,41,388	4,028	1,45,416
Total ..	4,35,947	22,424	5,19,341	(III)—TOOLS AND PLANT.			
				(9.) NAVIGATION PLANT ..	2,674	43	2,717
				(12)—MISCELLANEOUS ..			
				(13)—REPAIRS AND CARRIAGE...			
				TOTAL ..	2,674	43	2,717
				(IV.)—REFUNDS OF REVENUE	620	..	620
				(V.)—PROFIT AND LOSS			
				TOTAL ..	4,42,240	7,708	1,50,035
Share of Land Revenue collected in the Civil Department.	4,74,687	30,231	5,04,918	Indirect Charges debitable to Revenue Accounts per Account No 5.	19,704	561	20,365
Interest on sale proceeds of waste lands benefited.				TOTAL CHARGES ..	4,62,034	8,362	4,70,396
	4,74,687	30,231	5,04,918	Balance, Not Revenue ..	5,08,570	44,293	5,52,863
TOTAL RECEIPTS ...	9,70,604	52,655	10,33,259	GRAND TOTAL ...	9,70,604	52,655	10,33,259

(a). - Includes Rs. 659 on account of fees paid for collection of Revenue.

(b). Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNT. FOR THE YEAR 1916-17.

Lower Sutlej Inundation Canals Hajiwah Canal Project.

No. 5. ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
Revenue—			
Leave and Pension Allowances	19,794	564	20,358
Total	19,794	564	20,358

IRRIGATION BRANCH.

PUNJAB PROVINCE

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Chenab Inundation Canals Project.

No. 3.—REVENUE ACCOUNTS FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates ..	26,40,282	1,03,725	28,33,957	I. A.—EXTENSIONS AND IMPROVEMENTS.			
Sales of water ..	3,509	119	3,627	2.—MAIN CANAL AND BRANCHES	8,88,000	14,112	9,03,012
Receipts from Plantations	62,701	1,002	64,601	3.—DISTRIBUTARIES ..	1,40,999	9,249	1,50,248
Receipts from other Canal produce.	42,316	20	42,336	4.—DRAINAGE AND PROTECTIVE WORKS.	25,101	315	25,446
Rent of Buildings ..	1,396	235	1,631	TOTAL I. A. ..	10,53,000	23,706	10,76,706
Fines ..	39,748	639	40,387	(I. B.)—MAINTENANCE AND REPAIRS.			
Miscellaneous and other Receipts.	2,826	403	3,229	2.—MAIN CANAL AND BRANCHES	31,67,170	67,611	32,34,781
Total ..	2,82,726	1,97,217	30,20,043	3.—DISTRIBUTARIES ..	1,25,251	8,295	1,33,546
Contribution ..	11,47,600	..	11,47,600	4.—DRAINAGE WORKS ..	91,749	2,187	93,936
Other Labour ..	21,08,114	..	21,08,114	TOTAL I. B. ..	3,81,200	78,093	3,59,293
Share of Land Revenue collected in the Civil Department.	96,30,318	2,16,795	98,47,113	I. C.—COMPENSATION ..	1,932	..	1,932
TOTAL RECEIPTS ..	1,60,08,734	4,44,012	1,64,52,746	II.—ESTABLISHMENT.			
				5.—DIRECTION AND ACCOUNT ..	5,11,613	(b) 10,456	5,22,269
				6.—EXECUTIVE ESTABLISHMENT			
				7.—MEDICAL do. ..	16,41,21	2 (a) 36,41	16,77,625
				(7A).—Revenue do. ..			
				TOTAL ..	21,53,025	48,902	21,99,92
				III.—TOOLS AND PLANT.			
				12.—MISCELLANEOUS ..	31,014	497	31,511
				13.—REPAIRS AND CARRIAGE ..			
				TOTAL ..	31,014	497	31,511
				IV.—REFUNDS OF REVENUE	9,356	215	9,601
				V.—PROFIT AND LOSS ..	425	..	425
				TOTAL ..	66,34,952	1,49,443	67,84,395
				CHIEF LABOUR ..	21,08,114	..	21,08,114
				TOTAL ..	90,43,066	1,49,443	91,92,509
				Indirect Charges Debitable to Revenue Account as per Account No. 5 ..	3,51,254	6,566	3,57,820
				TOTAL CHARGES ..	93,91,320	1,56,009	95,47,329
				Balance, Not Revenue ..	60,14,414	2,88,033	63,02,447
				GRAND TOTAL ..	1,60,08,734	4,44,012	1,64,52,746

(a) Includes Rs. 5,408 on account of fees for collection of Revenue.
 (b) Excludes accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Chenab Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
Revenue—			
Capitalization of abatement of Land Revenue ...	8,536	...	8,536
Leave and Pension Allowances ...	3,42,718	6,566	3,49,284
Total ...	3,51,254	6,566	3,57,820

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Muzaffargarh Inundation Canals Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Occupiers' rates..	31,46,582	3,22,855	34,69,437	(I A.)—EXTENSIONS AND IMPROVEMENTS.			
				2.—MAIN CANAL AND BRANCHES ..	7,18,601	11,015	7,30,416
				3.—DRAIN CAPES ..	99,525	24,548	1,24,073
Sale of water ..	1,632	220	1,852	1.—DRAINAGE AND PROTECTIVE WORKS.	20,338	..	20,338
				TOTAL I. A. ...	8,38,464	35,563	8,74,827
				(I B.)—MAINTENANCE AND REPAIRS.			
Receipts from Plantations ..	1,18,675	12,117	1,30,792	2.—MAIN CANAL AND BRANCHES ..	28,85,726	1,31,633	29,97,359
				3.—DISTRIBUTARIES ..	2,60,293	44,027	3,13,320
				4.—DRAINAGE WORKS ..	38,875	815	39,690
				TOTAL I. B. ...	31,84,894	1,76,475	33,61,369
Receipts from other Canal produce.	7,250	221	7,471	(I C.)—COMPENSATION, IL—ESTABLISHMENT.	7,632	..	7,632
				5.—DIRECTION AND ACCOUNT.	6,12,672	(b) 21,107	6,33,079
Fines ..	29,783	277	30,060	6.—EXECUTIVE ESTABLISHMENT.	11,05,883	63,310	11,69,193
				(7A)—REVENUE DO. ...	6,62,591	(a) 30,051	7,00,572
				TOTAL ...	26,93,316	1,21,107	28,09,453
Miscellaneous and other Receipts	7,711	1,765	9,476	III.—TOOLS AND PLANT.			
				1.—SCIENTIFIC INSTRUMENTS	119	219	367
				2.—PLANT AND MACHINERY	..	..	..
				3.—TOOLS ..	978	618	1,496
				4.—NAVIGATION ..	..	..	..
				5.—CAMP EQUIPMENT ..	11	71	82
				6.—LIVE STOCK ..	..	..	..
				7.—OFFICE FURNITURE ..	220	110	307
				8.—REPAIRS AND CARRIAGE ..	10,894	1,283	12,177
				12.—MISCELLANEOUS ..	37,010	—314	36,696
Total ..	33,00,655	3,37,324	36,37,979	TOTAL TOOLS AND PLANT. ...	58,224	1,025	60,153
				IV.—REFUNDS OF REVENUE.	1,131	40	1,180
Contribution ..	8,01,270	..	8,01,270	V.—PROFIT AND LOSS.	4	..	4
Chhoh labour ..	24,31,233	..	24,31,233	SUSPENSE ACCOUNT.			
				Miscellaneous advances ..	71	100	261
				Stock ..	46,208	124	46,332
				Stock sales ..	..	..	..
				Stock purchases ..	—27	—1,813	—1,840
				London stores ..	..	..	..
				TOTAL ..	46,342	—1,490	44,852
Total ..	55,30,107	3,37,328	58,67,435	Chhoh labour ..	21,34,233	..	21,34,233
				TOTAL ..	92,38,177	3,31,620	95,72,697
Share of Land Revenue collected in the Civil Department.	1,00,22,760	4,10,610	1,04,33,370	Indirect Charges debitable to Revenue Account as per Account No. 5.	3,05,952	10,955	4,12,007
				TOTAL CHARGES ..	96,34,120	3,51,476	99,85,601
				Balance, Not Revenue ..	75,21,837	4,02,472	79,27,309
TOTAL RECEIPTS ..	1,71,58,066	7,53,947	1,79,12,013	GRAND TOTAL ..	1,71,58,066	7,53,947	1,79,12,013

(a.) Includes Rs. 9,461 on account of fees for collection of Revenue.

(b.) Excludes share of accounts commencing from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Muzaffargarh Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Capitalization statement of Land Revenue	18,355	..	18,355
Leave and Pension Allowances	3,77,597	16,955	3,94,552
Total ...	3,95,952	16,955	4,12,907

OFFICE OF ACCOUNTANT-GENERAL

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project—Provincial.

No. 3—REVENUE ACCOUNTS FOR AND TO END OF 1916-17.

RECEIPTS.	PROVINCIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
				(I A.)—EXTENSIONS AND IMPROVEMENTS.			
				2—MAIN CANAL AND BRANCHES	33,583	..	33,583
				3—DISTRIBUTARIES ..	11,487	...	11,487
Occupiers' rates ..	8,48,477	31,502	8,80,309	TOTAL I A. ..	45,070		45,070
				(I B.)—MAINTENANCE AND REPAIRS.			
				2—MAIN CANAL AND BRANCHES	2,38,807	23,476	2,62,283
Sales of water ..	7,423	600	8,023	3—DISTRIBUTARIES ..	67,351	2,642	70,043
				TOTAL I B. ..	3,06,158	26,118	3,32,326
Receipts from Plantations	5,103	...	5,103	(I C.)—COMPENSATION ...	62		62
				II—ESTABLISHMENT ...			
Receipts from other Canal produce.	490	...	490	5—DIRECTION AND ACCOUNTS	51,311	5,370	56,711
Water power ..	920	...	920	6—EXECUTIVE ESTABLISHMENT			
Fines ...	713	..	713	7.—MEDICAL Do. ...	3,21,303	13,439	3,37,801
				7.A.—REVENUE Do. ...			
				TOTAL ..	3,75,704	18,809	3,94,512
				III—TOOLS AND PLANT ..			
Miscellaneous and other Receipts.	3,693	..	3,693	12.—MISCELLANEOUS ...	1,437	...	1,437
				13.—REPAIRS AND CARRIAGE ..	1,693	...	1,693
				TOTAL ..	2,130		2,130
Total ..	8,66,830	32,402	8,99,322	V.—PROFIT AND LOSS ..	610	...	610
				TOTAL ..	7,30,740	44,970	7,75,716
Share of Land Revenue collected in the Civil Department.	1,75,204	12,073	1,88,177	Indirect Charges debitable to Revenue Account as per Account No. 5.	54,290	2,028	56,323
				TOTAL CHARGES ..	7,85,030	47,000	8,32,039
				Balance, Not Revenue ..	2,57,004	—2,144	2,54,860
TOTAL RECEIPTS ...	10,42,034	45,405	10,87,409	GRAND TOTAL ..	10,42,034	45,405	10,87,409

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Shahpur Canal Project.—Provincial.

No 5—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916 17.

Particulars.	Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Capitalization of abatement of Land Revenue	1,693	...	1,693,
Leave and Pension Allowances	52,597	2,633	55,230
Total	54,290	2,633	56,923

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.
ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ravi Inundation Canals Project.

No. 3.—REVENUE ACCOUNT FOR AND TO END OF 1916-17.

RECEIPTS.	IMPERIAL.			CHARGES.	IMPERIAL.		
	Previous.	1916-17.	Total.		Previous.	1916-17.	Total.
	Rs.	Rs.	Rs.	I A.—EXTENSIONS AND IMPROVEMENTS.	Rs.	Rs.	Rs.
Occupiers' rates	1,03,273	..	1,03,273	2—MAIN CANAL AND BRANCHES	500	..	500
				TOTAL I. A.	500	..	500
				1 B.—MAINTENANCE AND REPAIRS.			
Salage of water	297	..	297	1.—MAIN CANAL AND BRANCHES	89,597	..	89,597
				7—DISTRIBUTARIES	9,522	..	9,522
				TOTAL I. B.	99,119	..	99,119
Fines	36	..	36	I. C.—COMPENSATION	34	..	34
				II.—ESTABLISHMENT.			
				(a) 1.—DIRECTION AND ACCOUNT	19,913	2,109	22,052
Miscellaneous and other receipts.	8	..	8	6.—EXECUTIVE ESTABLISHMENT			
				7.—MEDICAL do.	1,15,053	..	1,15,053
				7A.—REVENUE do.			
				TOTAL	1,34,966	2,109	1,37,105
				III. TOOLS AND PLANT.			
				12.—MISCELLANEOUS	1,722	..	1,722
TOTAL ..	1,03,614	..	1,03,614	13.—REPAIRS AND CARRIAGE..	915	..	915
				TOTAL	2,637	..	2,637
				IV.—REFUNDS OF REVENUE	1,000	..	1,000
Share of Land Revenue collected in the Civil Department.	1,30,363	3,222	1,29,585	TOTAL	2,30,292	2,109	2,40,401
				Indirect Charges: debitable to Revenue Account per Account No. 5.	18,800	205	19,104
				TOTAL CHARGES	2,67,191	2,401	2,59,596
				Balance, Net Revenue	—25,214	518	—21,396
TOTAL RECEIPTS ..	2,31,977	3,222	2,35,199	GRAND TOTAL	2,31,977	3,222	2,35,199

(a). Share of Account excluded from 1912-13.

IRRIGATION BRANCH.

PUNJAB PROVINCE.

OFFICE OF ACCOUNTANT-GENERAL.

ADMINISTRATIVE ACCOUNTS FOR THE YEAR 1916-17.

Ravi Inundation Canals Project.

No. 5.—ACCOUNT OF INDIRECT CHARGES FOR AND TO END OF 1916-17.

Particulars.	Previous.	1916-17	Total.
	Rs.	Rs.	Rs.
REVENUE—			
Leave and Pension Allowances ...	18,899	295	19,194
Total ...	18,899	295	19,194

